

# **Water Operations in Swedish Road Projects: Legal and Stakeholder Perspectives**

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## **Abstract**

The construction and reparation of roads is a necessary part of Swedish infrastructure; for the use of individuals and for the transportation of commercial goods. Swedish road projects and related activities take place within and interact with their environment in differing ways. These interactions often include water operations to different degrees, for example land drainage, diversion of groundwater and dredging. It raises the question of how to deal with the dual interests of improving or building new roads and of the environment. The balance between a demand for sufficient and functioning infrastructure and the legal aspects of environmental protection of water operations needs to be considered. The operator needs a permit from the applicable Land and Environmental Court before starting a water operation (exceptions exist).

The consultation process towards a permit starts with stakeholder interaction including issues of collaboration, the writing process of the permit application with its Environmental Impact Statement and other requirements; finally the submission of the permit to the Courts and granting thereof. Conditions like control programmes and supervision are a part of the implementation of the legal rules. There is limited research on how these rules are applied in practice. Therefore the aim of this research project is to explore how the consultation and implementation of water operations are dealt with in real life and the significance of the Environmental Quality Standards for the water(s) concerned.

The topic has been explored through a literature survey (mainly Swedish) of environmental law and interviews with stakeholders involved in the whole water operation process – from planning to execution, from permit granting to supervision. The literature survey guides and shows what the Courts and stakeholders have to apply and comply with and how the Court of Appeals has judged. Interview results provide evidence from various perspectives as to the practicalities of implementing the laws and regulations including supervision. The interviews have filled in some gaps due to the lack of guiding precedential court cases. Conclusively, there is a need for clarification of the Standards applicability by the Courts and increased supervision of water operations.

**Keywords:** Water operations in Sweden, Environmental Impact Statement, Significant Environmental Impact, Environmental Quality Standards, stakeholders in water operations, and permit application.

## Executive Summary

### Purpose and Methodology

The construction and repair of roads is a necessary part of Swedish infrastructure; for the use of individuals commuting to work or for leisure and for the transportation of commercial goods. The maintenance and building of roads continues constantly as a part of Swedish society's infrastructural maintenance and development. Swedish road projects and related activities take place within its environment and so such works can interact with the environment in differing ways. These interactions often include water operations to different degrees, for example land drainage, diversion of groundwater and dredging. It raises the question of how to deal with the dual interests of improving or building new roads and that of the environment. The balance between a demand for sufficient and functioning infrastructure and the legal aspects of environmental protection of water operations needs to be considered.

### Legal Rules

The purpose of this thesis is to clarify the practical usage of the environmental rules concerning water operations in road projects. Further, to increase the judicial predictability for practitioners so that they can improve the water operation permit applications and the operations and supervisions themselves. This will be pursued through investigating and presenting the findings on the research questions.

There is a lot of uncertainty regarding environmental issues in road projects and a lack of precedential case law. The aim of this research project has therefore been to look deeper into some specific issues. With regard to the above stated, the Research Question for this thesis ask to go deeper into some of the most challenging and urgent aspects of improving and making the Swedish water operation permit process in road projects easier. The Sub-Questions deal with:

(a) the most feasible measures for achieving compliance and observance of the water operation permit conditions in road projects with regard to the mission of the operators, contractors and supervisory authorities and in their collaboration? (b) What measures could be taken to further clarify matters concerning the application of the Environmental Quality Standards from a judicial and supervisory perspective?

The topic has been explored through a literature survey of environmental law<sup>1</sup> and interviews with stakeholders involved in the water operation process – from planning to execution, from permit granting to supervision. The literature survey guides and shows what the Courts and stakeholders have to apply and comply with and how foremost the Court of Appeals, but also the Swedish Supreme Court has judged. The interviews have provided insights into the main concerns and problems experienced by the main stakeholders such as implementation of the laws and regulations as well as supervision. There have been 17 interviews made with 18 officers working with water operations in road projects at Swedish authorities, agencies and organisations. Matters dealt with in the interviews were: the rule exempting water operation permit, the consultation process, the Environmental Quality Standards (Standards), the permit and its conditions given by the Court, and supervision of the permit(s). The interviews have filled in some gaps since there was a lack of enough precedential court cases.

The contractor shall, pursuant to Chapter 6 Section 1 of the Code submit an Environmental Impact Statement with the application for a water operation permit referred to in Chapter 11

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<sup>1</sup> The literature survey is mainly from Swedish sources.

of the Code.<sup>2</sup> Therefore the operator will also consult concerned Stakeholders pursuant to Chapter 6 section 4. The size of the group needed to be consulted depends on whether there is a Significant Environmental Impact likely to occur due to the planned water operation; if so an extended group of Stakeholders shall be included in the process, Chapter 6 Section 4 p.2 of the Code<sup>3</sup>. The Standards are considered in the consultation process pursuant to Chapter 5 of the Code. The permit application is sent in to the applicable Land and Environmental Court (the Court), by the operator pursuant to Chapter 11 of the Code<sup>4</sup>. Any party to the case can appeal against the Court's verdict to the Land and Environmental Court of Appeal.

Once a permit is granted, the contractor, who is appointed by the operator, comes into the picture and gets involved with the operation's realisation. The supervisory authority at this stage is the County Administrative Board(s)<sup>5</sup> who work(s) to ensure that the permit and its conditions are complied with.

The supervisory authority is usually the County Administrative Board (the Board) for the supervision of water operations in road projects but supervision of environmental quality standards is usually shared between the Board and the relevant municipality.

## Findings

If a Significant Environmental Impact is likely to occur in a water operation, it might be wise to include a wider circle of stakeholders at an earlier stage of the consultation process. This will be beneficial in both time and money. It is also important to give the stakeholders enough time to investigate the local conditions, previous cases and existing material, and to take their results into serious consideration.

There is concern among stakeholders that supervision of water operations in road projects is not prioritised by the supervisory authority.

Therefore the Board should be provided with more resources set aside to improve their supervision of water operations; especially with regard to the implementation of the Environmental Quality Standards aim of 2015. It would also be helpful to co-ordinate the supervision with other authorities (for example, the stakeholders included in Chapter 5). Exchange of knowledge between the Board, the municipality, the operators and the contractors as a way of finding alternative solutions are also of major importance. Whistle-blowers, at contractor and operator level, should be protected and encouraged to report nuisances, risks, violation of permit conditions, etc.

There are challenges in implementing the legal rules of the Standards at the Swedish authorities, in the Courts, and with the operators. The challenges lay in what weight to give to the Standards in the consultation process, setting a proportionate Standard for the water status in question, and fulfilling the Standard requirements in real life. There is a desire from the stakeholders' point of view, especially the Boards' that the Swedish Courts should take action to clarify and include the Standards in water operation permits. The Courts' action is preceded by the parties somehow bringing the Standards to the fore. This issue is of special interest

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<sup>2</sup> See Appendix II p.65

<sup>3</sup> Significant Environmental Impact and the content of Statements can be found in the Regulation (1998:905) on Environmental Impact Statements and its Annexes; Appendix II

<sup>4</sup> See Appendix II, p.65

<sup>5</sup> Länsstyrelsen

when the water operations are combined with road projects. This would give reassurance to the other stakeholders who want to be able to rely on more constant, higher standards in the future. Stakeholders' predictability of measures needed to be taken regarding water status would be present already at the planning stage of road projects.



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## **Abbreviations**

EIS	Environmental Impact Statement
EU	European Union
EQS	Environmental Quality Standards
GSS	Geological Survey of Sweden
LEC	Land and Environmental Court(s)
LECA	Land and Environmental Court of Appeal
LFASA	Legal, Financial and Administrative Services Agency
SEI	Significant Environmental Impact
SEPA	Swedish Environmental Protection Agency
SSNC	Swedish Society of Nature Conservation
STA	Swedish Transport Administration
SWA	Swedish Water Authorities



# 1 Introduction

## 1.1 Problem statement

The construction and reparation of roads is a necessary part of Swedish infrastructure; for the use of individuals commuting to work or for leisure and for the transportation of commercial goods. The maintenance and building of roads continues constantly as a part of Swedish society's infrastructural maintenance and development. Swedish road projects and related activities can interact with the environment in differing ways. These interactions often include water operations to different degrees, for example land drainage, diversion of groundwater and dredging. It raises the question of how to deal with the dual interests of improving or building new roads and that of protecting the environment. The balance between a demand for sufficient and functioning infrastructure and the legal aspects of environmental protection of water operations needs to be considered.

A necessary legal permit has to be applied for and granted before any water operation can begin in a road project. A consultation procedure, including an environmental impact assessment (EIA, which precedes the actual Court permit trial). Water operations are regulated under Swedish law through the Swedish Environmental Code (1998:808), *lex generalis* and Act (1998:812) Containing Special Provisions concerning Water Operations, *lex specialis*. The two regulations, that is, the Regulation (1998:905) (Environmental Impact Assessment) and the Regulation (2004:660) (Management of the Water Environment Quality), are also pertinent to water operations.

Changes in the Environmental Code and the establishment of the Regulation (2004:660) on Management of the Water Environment Quality are Swedish measures to implement the EU Water Framework Directive 2000/60/EC (WFD) of 2000 with relevancy to water operations in road projects.<sup>6</sup> There are standards for water quality in the directive and hence also in the Code and regulation. However, for example, because the standard for all water bodies to have "good surface water status" (Article 4 (a) (ii), WFD) need not be reached until end of 2015 (4:2, 2004:660) it raises a debate as to how to deal with the 2015 standard at present; is it to be applied now or can it wait until December 2015? In addition, what about any operations affecting water status which take place from now until 2015? How should *they* be dealt with? What guidance does the Swedish legislation provide? With regard to the Courts granting permits and setting the conditions thereof; there are uncertainties as to how these standards will be reflected in the permit conditions after 2015 and the development up until then. How can such uncertainties be limited and predictability increased? Are there cases from the highest Court dealing with the standards, i.e. precedential and are they clear enough to guide the lower Courts? The operator's role in creating consistency of the standards' utilisation when writing the application needs to be further assessed so that permit applications and project realisations is improved. The standard of "Good surface water status" will be described in chapter four of this thesis.

The control programmes<sup>7</sup>, often included as a condition in a permit and drawn by the operator in collaboration with the County Administrative Board (the Board); provide some help and guidance in conducting the project. There are for example bridge abutments, damming effects, widths and heights given in the programme and restrictions like when you

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<sup>6</sup> There are other amendments and changes of Swedish laws pursuant to the EU Directive not included in this thesis.

<sup>7</sup> See the Environmental Code, Chapter 26 Section 19

are not allowed to dredge (during the play and spawning periods); see chapter five for further description. But not all details concerning possible circumstances that might occur during the project can be foreseen at such an early stage. Unpredictable things can happen and if so changes would inevitably need to be made for project realisation. This raises the question as to how control programmes can be developed in order to ease the project's realisation and its supervision by the Board.

In all the issues discussed above, the many stakeholders' views need to be considered not only during the consultation process and in the conditions of the granted permit but also in the execution of the operations; the views on pro- and cons of the existence or non-existence of road projects are not subject to this thesis. The majority of stakeholders subject to this thesis may appear to be in agreement but sometimes conflicting interests will arise. To resolve such conflicts one stakeholder's argument has to be evaluated against another by taking into consideration the advice and facts brought forth by each. How can such interactions be improved - not only at an early stage but also throughout the whole process and even after the project has been completed (i.e. when supervision begins)?

Pursuant to what is written above there are many challenges. Some of the most important challenges are: the difficulties in marrying the objectives of every water operation permit with the planning and execution of a given road project in a way that creates harmonious working relationships between the stakeholders, the lack of precedential court cases for guidance to Stakeholders, and how to handle the Environmental Quality Standards. They will be reflected in the Research Question, approach and objectives described below, and returned to in subsequent Chapters throughout this thesis.

## 1.2 Research Question, Approach and Objectives

In the bullet points below a number of issues surrounding the complexity of water operations in road projects are listed.

- Difficulties in marrying the objectives of every water operation permit with the planning and execution of a given road project in a way that creates harmonious working relationships between the operator, contractor and supervisory authority.
- Lack of precedential court cases concerning water operations in road projects in Sweden for guidance to Stakeholders; the reasons why and the consequences for Stakeholders thereof.
- Uncertainties surrounding the usage and status of, together with the present and future impact of, the Environmental Quality Standards and how they are to be implemented and applied in specific projects.

Therefore the Research Question for this thesis is -

What are the most challenging and urgent aspects of improving and making the Swedish water operation permit process in road projects easier?

with Sub-Questions:

(a) What are the most feasible measures for achieving compliance and observance of the water operation permit conditions in road projects with regard to the mission of the operators, contractors and supervisory authorities and in their collaboration?

(b) What measures could be taken to further clarify matters concerning the application of the Environmental Quality Standards from a judicial and supervisory perspective?

The research methodologies applied are studies of Swedish legal sources (laws, preparatory works, case law, and related books and reports) and interviews with the main stakeholders. The limited content taken from each area of the “legal sources” is due to time constraints and thesis focus: this thesis being an interdisciplinary paper. The paper does not merely focus on environmental aspects from a legal perspective, but also from a societal and stakeholder perspective. Therefore a balance between these aspects is made. The legal rules are chosen with concern to their contextual significance in water operations in road projects.

Investigations into the “legal sources” included the following -

- Laws and regulations: The relevant parts of the Environmental Code (1998:808) are the Act of (1998:812) Containing Special Provisions concerning Water Operations; Regulation of (2004:660) the Management of Water Environment Quality; and Regulation of (2004:660) the Management of Water Environment Quality.
- Legislative history: a limited selection of travaux préparatoires of the Swedish Government (Proposition) that the laws and regulations, including the amendments thereof in this thesis are based on; see the section above.
- Case law: Judicial verdicts from the highest applicable court (precedential) which is the (Land- and) Environmental Court of Appeal with regard to Swedish cases.
- Doctrine: Works of learned scholars within the field of law applicable to the study in question, here: a limited selection of literature material in environmental law with focus on water operations and their consultation process and permit procedure related to road projects in Sweden.

Interviews were carried out as follows -

There were a number of interviews with different stakeholders in which their roles, in relation to the topic of the thesis and the main problems they deal face, were discussed. This was in order to get a holistic view of water operation consultation procedures, permit granting procedures and the execution of the water operations so that an understanding of each stakeholder’s viewpoint and focus could be ascertained.

### **1.3 The Scope of this Thesis**

The practice of water operations in road projects starts by being examined at an overall perspective, in its contextual setting. This continues when narrowing down to the details of the consultation process for permits and the granting thereof by the court and yet further down to the specific conditions in permits.

The geographical scope of this thesis is confined within the kingdom of Sweden; that is, as far as the Swedish borders and as far as Swedish jurisdiction for road projects reach.

The last decade, i.e. 2000-2010, determines the temporal scope of this thesis. 2000-2010 covers a period of time during which the Swedish Environmental Code had entered into force and provided the framework for practitioners. This decade is relevant because it coincides

with an increase in legal – laws and regulations and court cases- and practice development within road projects’ water operations.

The scope of this thesis with regard to interviews covers the following -

- The Consultation Procedure.
- The Environmental Impact Statement.
- The Environmental Quality Standards.
- The possible differences in attitude of Stakeholders towards, handling of, water operations in road projects and in other projects.
- The Courts’ role, and permits and the development thereof, in relation to the legal definition of water operations in the Environmental Code chapter 11 section 2 and Act (1998:812) Containing Special Provisions concerning Water Operations chapter 1 section 2.

See Appendix IV for the interview questions. Questions relating to in-depth analysis of the EU Water Framework Directive and the procedural rules at the Land- and Environmental Court and the Land- and Environmental Court of Appeal were excluded since they each cover such large areas and thus were beyond the scope of this thesis.

## 1.4 The Structure of this Thesis

Chapter one contains the Introduction to the Thesis including problem statement, Research Question and objectives, limitations and scope.

Chapter two describes the methodology, choice of and content- of this research thesis. There is a presentation of the legal methodology used and its essentials. Interviews as a method for qualitative research and the realisation of such interviews follow. The analysis of data and boundaries of the study finalises this chapter.

Chapter three of this thesis describes the background to water operations in road projects and the permits for water operations. Significant aspects are dealt with; aspects such as infrastructural context, purpose and practicalities.

Chapter four presents the legislative history of water operation in its environmental context, its applicable laws and regulations, its relevant court cases and doctrine on the subject matter.

In chapter five the thirteen chosen Stakeholders and their views are presented, one by one. This chapter concerns the stakeholders’ commissions, their roles in the consultation process, the permit granting process and the project realisation.

The conclusions follow in chapter six; that is, what things/results to remember of this thesis and what lessons can be learnt from it. Thus some recommendations are presented which might help limit uncertainty and improve the implementation of Swedish water operations in road projects in the future.



## **2 Methodology<sup>8</sup>**

In this Chapter the methodology used in this thesis is described. It shows how the research was carried out, which methods were used and why they were used. However, the overall topic of this thesis (Water operations and their legal and Stakeholder perspectives) was derived from investigating earlier Swedish road and water developments and comparing them with the present situation and their related environmental issues. Hot topics in Swedish road and water development, from a legal practitioner's and Stakeholders' view, were selected. The final one topic chosen was based on what was theoretically and practically possible to investigate. For example, would there be enough relevant material and detailed data to draw upon; material such as laws, regulations, court cases, literature etc.? And, from a practical point of view, the thesis topic was limited by the research time constraints, by the resources of the scope, by the availability of materials and by the data extracted from interviews. In addition, Stakeholders' perspectives on present and future ways of working had to be taken into consideration. These concerns were discussed with the author's thesis supervisor at Ramböll. As a consequence a minor survey on laws, regulations, court cases and relevant literature was initially carried out on the four suggested topics before the thesis topic on 'Water operations and their legal and Stakeholder perspectives' was found to be the most suitable.

Prior to deciding the Research Question and sub-questions on the, 'Water operations and their legal and Stakeholder perspectives', topic a 'Prioritisation and Interest Assessment' was carried out. Firstly, an appraisal to determine what was the central issue of the topic and whether there were any sub issues to be addressed followed by an estimation of the range of material likely to be found on the issues to be investigated. Secondly, a balance of interests between a theoretical, legal perspective and a practical practitioner's perspective needed to be assessed. Both aspects of the Assessment determined that any background research and any results on the topic would, needless-to-say, be constrained by time.

The chosen methods were literature surveys and interviews – both methods being applicable to qualitative research. These methods were chosen as they would provide the tools to address the Research Questions of this thesis; the Legal survey would guide and show, in their respective domains, what the Courts and Stakeholders have to apply and comply with and how the Court of Appeals have judged while the Interview results would provide evidence from various perspectives as to the practicalities of implementing the laws and regulations. The interviews have contributed and filled in gaps since the lack of enough precedential court cases was imminent.

### **2.1 A Legal Survey**

A survey of Swedish laws and regulations, legislative history, precedential court cases and doctrine has been carried out. This method was selected because the legal matters covered in this thesis lie under Swedish jurisdiction and are the working procedures employed by Swedish lawyers and legal scholars. The Swedish legal system differs somewhat from most other Western legal systems in the sense that Sweden gives more substantive weight to legislative history. (Zetterström, 2004) A limited survey and examination of the tools from the "legal sources" with regard to 'Water operations and their legal and Stakeholder perspectives' was carried out.

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<sup>8</sup> See the timeline of this thesis in Appendix I, p. 57

Information from the “legal sources” that relates to the main Research Question, ‘What are the most challenging and urgent aspects of improving and making the Swedish water operation permit process in road projects easier?’ was retrieved.

## 2.2 Interviews with Stakeholders

### 2.2.1 Interview – a Method for Qualitative Research

The interviews presented in this thesis are guided by the following two types of interview:

“*General interview guide approach*” (McNamara, 1999) – This approach is meant to certify that general information within the same subject is gathered from each interviewee. More focus is given here than through an informal conversational approach, however some level of freedom and flexibility in receiving data from the interviewee is still permitted. (McNamara, 1999)

This approach is used in the way that the questions asked to all interviewees are within the same subject. The questions are almost identical to all interviewees, only with minor changes in regard to the interviewee in question.<sup>9</sup> Further, the questions are asked in the same order at each interview, the same sub-subject order is always followed. The interviewee is requested to answer the questions posed, but may add some valuable data indirectly related to the question.

“*Standardized, open-ended interview*” (McNamara, 1999) – The same open-ended questions are given to the interviewees; i.e. the questions are not yes- or no-oriented and do not include numeric targets but are to be answered in a free manner. This type of interview makes analysis and comparison fairly comprehensible through its promptness. (McNamara, 1999)

The standardized open-ended interview is applied in this thesis in the sense that at the interview occasion, the interviewee could freely answer the questions. The questions were open-ended; they did not ask for a yes or no answer and did not include numeric targets. The only exception is question three<sup>10</sup> where a yes or no answer will be the result; however an explanation and motivation of the answer are demanded.

The “quality criteria for an interview” according to Steinar Kvale (1996) should consist of six criteria for an ideal interview, especially the last three criterions, listed below. They are:

- “The extent of spontaneous, rich, specific, and relevant answers from the interviewee.
- The shorter the interviewer’s questions and the longer the subjects’ answers, the better.
- The degree to which the interviewer follows up and clarifies the meanings of the relevant meanings of the relevant aspects of the answers.
- The ideal interview is to a large extent interpreted throughout the interview.

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<sup>9</sup> See Appendix IV, pp. 83. The only exception is the main contractor where the questions differs more from the others, but are still kept within the same subject.

<sup>10</sup> See Appendix IV, p.83

- The interviewer attempts to verify his or her interpretations of the subject's answers in the course of the interview.
- The interview is "self-communicating" – it is a story contained in it that hardly requires much extra descriptions and explanations." (Kvale, 1996)

This thesis is guided by Kvale's "quality criteria for an interview" in that the interviewees were provided time and opportunity to give relevant, multifaceted and long enough answers to the questions. Throughout the interview, the interviewer and the interviewee communicated by re-asking questions and re-reading answers, clarifying matters, going back and adding to previous answers etc. Chances to interview follow-ups were given to the interviewees in close time to the interview and later to comment and edit the draft written by this thesis' author.

For this thesis the following 13 Stakeholders were chosen:

- The Swedish Transport Administration, three interviewees
- The Swedish County Administrative Boards, six interviewees
- The Swedish Water Authorities, one interviewee
- The Legal, Financial and Administrative Services Agency, two interviewees
- Swedish Municipalities, three interviewees
- The Swedish Environmental Protection Agency, one interviewee
- The Swedish National Board of Housing, Building and Planning , one interviewee
- The Geological Survey of Sweden, one interviewee (three were asked)
- The Swedish Society for Nature Conservation, one interviewee
- Neighbours - private interests
- The Land and Environmental Courts, no interview (three were asked)
- The Land and Environmental Court of Appeal, none replied
- The Main Contractor, one interviewee (three were asked)

Stakeholders were selected according to the mandate given to them by the laws and regulations (see below). Those Stakeholders who were operators were selected because of their role in connection to the permit procedure for water operations in road projects. The main contractor Stakeholder was chosen on basis of their role as the party realising the construction of a road project. In Sweden the major contractor in a large road and/or water project is usually a large Company. Suggestions came from the County Administrative Board as to which Company Stakeholders might possibly be willing to get involved in the thesis' questions.

The subject areas for the interview questions were chosen because of their link to the scope and content of water operations in road projects. Questions to the interviewees were honed towards each Stakeholder's particular role(s) in the permit procedure for water operations in road projects; That is, what they do – their work and mission; their role in relation to other Stakeholders; and the mandate (rights) they have. Information about each Stakeholder has been collected from their websites and, cross-wise-reading of these websites, determined what mandates they were given through the provisions of the Environmental Code, Regulation of (2004:660) the Management of Water Environment Quality Regulation of (2004:660) the Management of Water Environment Quality, and Regulation of (2004:660) the Management of Water Environment Quality. It was through the Stakeholders' websites that data, current practise including recent, ongoing and future operations, and handbooks where found; from that enlightening interview questions were constructed by the author. Inputs were given by the Ramböll supervisor (consultant).

## **2.2.2 The Realization of Interviews**

The interviews with Stakeholders were initiated, planned and executed in the following ways. People holding positions at various authorities, agencies and societies relevant to this thesis were contacted via e-mail. These people were chosen because they worked with and had personal and practical experience of environmental aspects regarding water operations in road projects; they would be involved in the whole procedure - from the consultation process, permit application, court trial, and conditions in permit to the supervision of the project. The initial request emails included a brief description of the thesis' scope and its boundaries.

After replying and agreeing to be interviewed, the contacts were each sent a document with questions applicable to their profession and within the thesis' framework so that they would be prepared and feel ready when their actual interview took place. All six contacted County Administrative Boards (the Boards) were given the same questions so that a solid comparable understanding of their work and its processes could be done by the interviewer. The preparative questions sent to the authorities, agencies, society and contractors were very similar to those sent to the Boards except that they were slightly adjusted to their particular field of work and given role in water activities but still within the scope of this thesis.

An investigation into each of the bodies which the interviewees represented was conducted prior to the construction of the interview questions. The questions were semi-structured and gave opportunities for the interviewee to answer and give examples.

A date and time were set for the interview. The interviews were carried out a one to one basis over the telephone beginning with the interviewer giving background information about her Masters' Degree programme and about the thesis which formed part of the Degree. It was further explained that the purpose of the interview questions and answers was to provide data for analysis for the Thesis. Then the answers to the questions were written down while speaking; both parties in dialogue adding to the prepared questions as the interview went on. There were some follow-ups with additional questions, queries and further comments from some interviewees at a later date.

When chapter 5 was written, all interviewees were sent the interview part they were involved in and asked whether their name could be mentioned or if they wanted to be anonymous. They were also given time to make comments and corrections in that material (on what they were referenced). Where several interviewees were involved in the same stakeholder section,

they were all anonymous to each other. No one could know who the other persons interviewed were.

## **2.3 Analysis of Data**

The material collected from the “legal sources” and the literature therein have been analysed with what the interviewees have said in the interviews in order to get as just a picture as possible of water operations in road projects. In the pursuit of distinguishing what are relevant and coherent for the Research Question(s).

The laws and regulations applied in the thesis were originally written in Swedish since it is the native language of Sweden. There is an English version of the Swedish Environmental Code which has been used mainly with regard to the legal terms used so that the most accurate and harmonised translation of the terms used can be reached. Caution has been taken with regard to the textual content due to the fact that the English version of the Swedish Environmental Code (changes up to 1 August 2000) is not updated with the latest changes to the Swedish version (changes up to 1 August 2011). A double check with the original Swedish version is done to make sure that the most up-to-date information is always used. The Act (1998:812) Containing Special Provisions concerning Water Operations, Regulation 1998:905 on Environmental Impact Statements and Regulation (2004:660) on Management of the Water Environment Quality do not have an equivalent version in English. Therefore they were translated into English by the author with the help of a legal supervisor from the IIIIEE, Lund University and from a native English speaker, giving regard to transparency, to the Swedish Environmental Code and its legal terminology.

The analysis was carried out by the author who has a background in law, management and policy but not in biology, chemistry or geology. Thus the legal emphasis should be taken into consideration when reading the text.

## **2.4 The Limitations of this Thesis**

At an interview level, this thesis is limited by the number of interviews possible to make within the timeframe of this thesis, by the time and availability of the interviewees to part take with regard to their working load and summer vacations and so the facts and information that could be provided by them and consequently the limits to which analysis that could be made thereof. The entities (authorities, societies, neighbourhoods and courts) subject to interview were chosen with regard to their various roles in the process of water operations and permits. Unfortunately, no representative for the Land and Environment Court of Appeal has responded to any interview request made. Further, the interviewees within each entity were selected because they had relevant professions and positions that made them eligible and competent to answer questions related to this thesis.

There is also the limitation of using interviews as a method; it can easily become subjective when the interviewees interpret the questions posed and then the interviewer interprets the interviewees’ answers, despite analysis pursuant to section 2.3 this thesis.

On a contextual level, the environmental issues are limited to water operations and their impacts and not *per se* covering soil degradation, air pollution and climate change, etc.



## 3 Background

This thesis is based on the Swedish legislative system and the Stakeholders involved in the thesis also operate under the Swedish legal system with regard to their obligations under the State's EU-membership. When looking at EU-membership, only the Water Framework Directive of 2000/60/EC will be considered in this thesis. A short introduction to the Swedish legal system and an even smaller introduction to the EU system will be presented. The stakeholders' relationship to both the Swedish and the EU legislative systems (due to the provisions of the Directive) with regard to water operations will therefore be given in this chapter.

### 3.1 The Swedish Legal System

#### 3.1.1 The Swedish Legal Framework

There is a legal framework within each sovereign State. The manner in which the framework is systematized varies from State to State. In Sweden there is usually a division between the main categories of *Civil Law* and *Public Law*. (Gipperth et al., 2007)

Within *Civil Law* there are rules dealing with legal relationships between private subjects, these can be either physical or juridical persons. Examples of this include the rules for purchase, for contracts and for the relationship between spouses. The organisation and work of the State and other Authorities and agencies' in the country's administration operates under *Public Law*. Under the broad umbrella of *Public Law* operates Criminal Law, Procedural Law, and rules concerning the relationship between the State, its Bodies and Individuals. (Gipperth et al., 2007)

Apart from the division between *Civil Law* and *Public Law* there are also different legal areas/disciplines of law. Examples of such disciplines are: Contract Law, Family Law, Energy Law, and Environmental Law. The regulations of Energy Law and Environmental Law fall mainly within *Public Law* since they are dealing with private subjects' duties and rights in relation to the State. Public Authorities and agencies, as well as courts, can determine conditions for the environmental impact of the activities (or operations); these are the bodies that take legal action if the conditions are violated. (Gipperth et al., 2007)

#### 3.1.2 The Swedish Legal Sources

Legal sources determine what influences the content of the legal rules and their interpretation. (Gipperth et al., 2007) The hierarchy of the Swedish legal sources are as follows, below.

The Fundamental Laws, 'grundlagarna' synonymously called 'the Constitution' are the legal sources of highest rank in Sweden. There is special protection against changing these laws in that they can only be amended when two identical decisions have been taken by the Swedish Parliament: each decision having been taken before and after a governmental (national) election, respectively. This is stipulated in Chapter 1 Section 3 and Chapter 8 Section 15 of Regeringsformen, the Instrument of Government. No other laws or regulations can be in violation of a Constitutional Law. However, should a conflict of interest occur between a provision of a Fundamental Law and provision of another law the Fundamental Law is superior. (Gipperth et al., 2007) There are four Statutes pursuant to Chapter 1 Section 3 of the Instrument of Government; namely the Instrument of Government, the Act of Succession,

the Fundamental Law on Freedom of Expression, and the Freedom of the Press Act. The Instrument of Government is central since it states that ‘the separation of powers’ and the working procedure for the Government, the Parliament and other State organisations are all necessary to steer the law-making process.

Other law (act) pursuant to the Instrument of Government Chapter 1 Section 4 paragraph 2 is the second highest and most important legal source. In the Instrument’s first Chapter it is stipulated that all public power proceeds from the people. This means that laws can only be made by a Parliament that has been elected by popular vote. The principle of legality is further stated in the same Chapter by stating that the requirement is that the public power shall be exercised under the laws. The implication of this is that all decisions and measures in the administrations’ exercise of power must have support in law. All institutions within public administration shall consider all people’s equality before the law and operate in an objective and impartial manner. (Gipperth et al., 2007)

The composition of laws can look very different depending on the discipline they are dealing with. There are framework laws that are meant to be supplemented by more detailed rules through regulations and prescriptions. Other laws are a lot more specific. The Government has the right to establish regulations in Sweden, based either on its own competence or sanctioned by the Parliament. The regulations give detailed rules pursuant to laws and govern, for example, the State Authorities’ activities. Prescriptions can be issued by the Authorities pursuant to their areas of activity when given competence by Parliamentary consent or by Government delegation. (Gipperth et al., 2007)

The legislative history, that is, the work in preparation for the legal texts is used in Sweden, especially by the Courts, as a support to the interpretation of legal rules. This means that when uncertainties occur, guidance can be found from a proposition, a State investigation, etc, pursuant to the decision of adopting a law. In Sweden these preparative works hold an unusually strong position as a legal source. This is sometimes criticised, for example, when an extensive investigation or survey has been carried out in a limited period of time or when certain formulations that are difficult to use as support of interpretation. (Gipperth et al., 2007)

The case law of Swedish Courts especially where the verdicts of a higher Court are been made precedential to the lower court is an important legal source, even if the case law is not legally binding for the lower court. The higher the Court, the more weight is put on its verdict and on its motivation (explanatory statement). Doctrine, i.e. works of legal scholars is also used as a support when interpreting laws and case law. (Gipperth et al., 2007)

Nevertheless, hierarchical conflicts can arise between different laws and/or different regulations. To help out in such situations there are three main principles of interpretation in Swedish law. These are:

- “• lex superior – the Statute with the highest status has priority
- lex specialis – the most specialised law has priority
- lex posterior – the last concluded Statute has priority” (Gipperth et al., 2007)

Although the principles seem clear, difficulties that can still arise in real-life situations; for example, it is not unusual for a law with lower status to regulate a specific issue than a law with higher status. Thus, case by case solutions have to be made in those matters. (Gipperth et al., 2007)



## 3.2 The Legal System within the EU

### 3.2.1 The EU Legal Framework

The legal framework within the EU differs from the various individual EU members' national frameworks. For example, the responsibility of implementing legislation that is established at the EU-level is the responsibility of the individual States. The EU Member States have an obligation to ensure that the content of any European Law is implemented into National legislation and being applied by those individual National Authorities and Courts. Sanctions from the EU can be taken against Member States who do not satisfactorily harmonise their National legislation with that of the Union. (Gipperth et al., 2007)

### 3.2.2 The EU Legal Sources

There is in the EU, as within all EU Member States' National legal systems, a hierarchy of legal sources. The three sources of EU law are: Primary sources or law, Secondary sources or law, and Supplementary law.

- Primary EU law sources being: the amending EU Treaties, the Protocols annexed to the founding EU Treaties and to the amending EU Treaties, and the EU Treaties on new Member States' accession to the EU. (EU, 2010)
- Secondary EU law sources are for example unilateral acts such as regulations, directives and decisions. Secondary law also includes international agreements, agreements between Member States and agreements between the EU institutions. (EU, 2010) The EU secondary law deals with environmental matters among others. The areas prioritised within the environmental sector are: climate change, biodiversity, air pollution and nature resource management. (EU, 2011) The Water Framework Directive 2000/60/EC is of relevance for this thesis. Through this directive a brand new working method concerning water issues has been established within the union. Collaboration across the member state borders is necessary to ensure the existence of good water quality for generations to come. In order to handle the lacks in water environment and quality the work with water quality shall emanate from nature's own water boarders, i.e. the river basin districts. The directive includes groundwater and all types of surface water, i.e. lakes, watercourses and coastal waters. The open seas are however not included. All EU member states shall proceed similarly with the water issues to attain the goals set by the directive. The work is divided into periods of six years; the first period ends in December 2015. By December 2015 the goal is that all waters shall have reached good status; some exceptions are made to 2027. (the Swedish Board of Agriculture, 2011)
- The EU supplementary law includes the case law of the Court of Justice, International Law and the General Principles of Law. This legal source has made it possible for the Court to fill the gaps left by primary and/or secondary law sources. International Law serves as a source of inspiration for the Court of Justice (the Court) when case law is being developed. The Court quotes written law, custom and usage. The General Principles of Law are sources of law unwritten and developed by the case law of the Court. The Principles have been made available for the Court to implement rules in various areas that the treaties make do not cover. (EU, 2010)

### 3.3 The Stakeholders' Place in the Water Operation Process in Road Projects

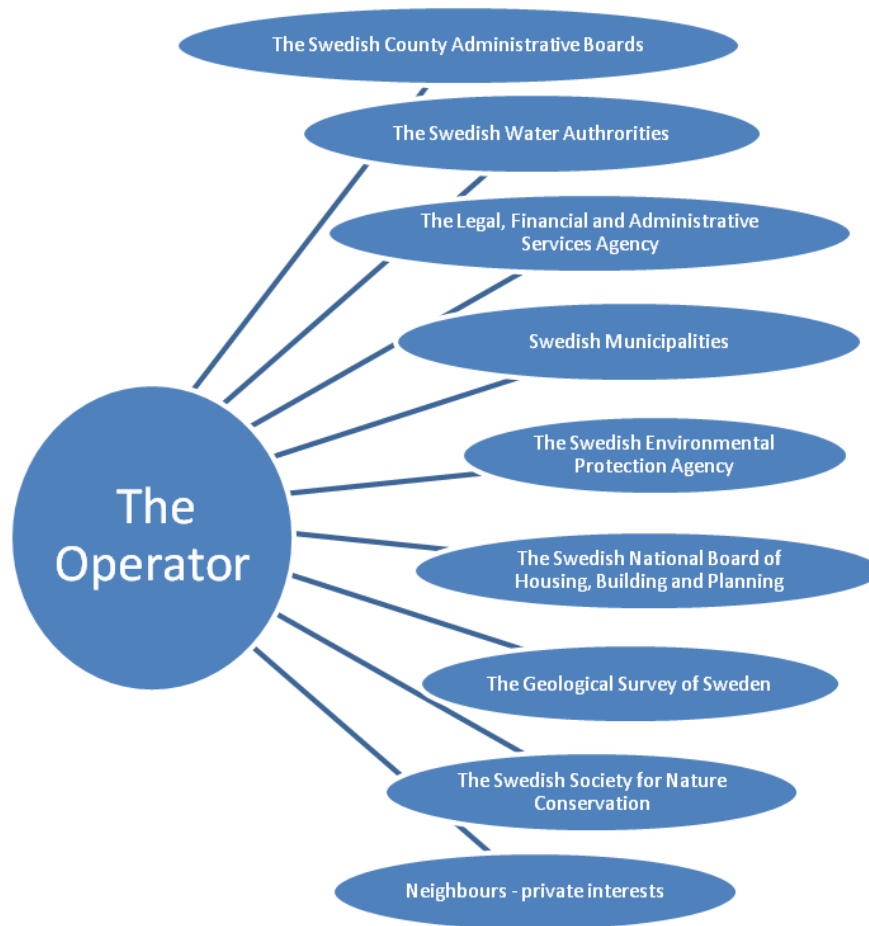
The sections below in 3.3 figuratively illustrate the overall place and relationship of the Stakeholders' to each other throughout the stages of water operations: from consultation to supervision. Detailed descriptions of the Stakeholders' missions are presented, pursuant to their views, one by one, that are presented in Chapter 5 of this thesis. The order presented is same order in which they normally participate in the consultation process, the permit procedure and in the realization of the water operation(s).

#### 3.3.1 The Operator and the Stakeholders in the Consultation Process

The Contractor shall pursuant to Chapter 6 Section 1 of the Code submit an Environmental Impact Statement with the application for a permit referred to in Chapter 11 of the Code, and Chapter 11 deals with water operations in road projects.<sup>11</sup> Therefore the Operator will also consult concerned Stakeholders pursuant to Chapter 6 section 4. The size of the group needed to be consulted depends on whether there is a significant environmental impact likely to occur due to the planned water operation; if so an extended group of Stakeholders shall be included in the process, Chapter 6 Section 4 p.2 of the Code. More guidelines of significant environmental impact and the content of Statements can be found in the Regulation (1998:905) on Environmental Impact Statements and its Annexes, Appendix II this thesis. Below are the list of Stakeholders subject to this thesis and a short introduction of each; further descriptions of the Stakeholders are given in Chapter 5.

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<sup>11</sup> See Appendix II p.65



*The Operator*: the Stakeholder who wants to pursue a water operation in road project. The part that is responsible for engaging Stakeholders into the consultation process, the Code Chapter 6 Section 4.

*The Swedish County Administrative Boards*<sup>12</sup> (*Boards*): The boards are an important part of the consultation process, in guiding and steering the Operator in making a sufficient permit application; especially when it comes to the content of Environmental Impact Statements. (The SCAB, 2009)

*The Swedish Water Authorities*<sup>13</sup>: A Board in each water district functions as a water authority and is accountable for “dealing with the quality of the water environment within that district.” (SCAB, 2009) The Environmental Quality Standards (the Standards) are therefore their main focus to enlighten and influence the Operator with regard to a permit application.

*The Legal, Financial and Administrative Services Agency*<sup>14</sup>: the Agency’s focus area with regard to water operations lies with the Standards in the consultation process. The Agency also represents the state in specific cases like environmental and common interests at the Land and Environmental Courts. Sanctioned by Chapter 5 Section 5 the Code, section 18 of the Measure Programmes for 2009-2015 of each district stipulates that the Agency is

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<sup>12</sup> Länsstyrelsen

<sup>13</sup> Vattenmyndigheterna

<sup>14</sup> Kammarkollegiet

commissioned to produce material and strategies with the purpose to attend to barriers for fish passage, regulations, water management issues and other physical interferences that affect water bodies. (LFSA, 13 July 2011)

*Swedish Municipalities*: a municipality is legally, or contractually, responsible for planning and building issues including the construction and maintenance of roads; i.e. a municipality can either be a party to the consultation process or an operator. (SALAR, 2011) This thesis focuses on the municipal role as a party to the process. They are normally involved at an early stage in the process since a road project happening in their area is important for them (infrastructure and transport) and water operations concern them and the people living within their borders; see Chapter 5 this thesis.

*The Swedish Environmental Protection Agency*<sup>15</sup>: the vision of the Agency is enabling “a good living environment for humans and all other living things, now and for future generations”. (SEPA, 2011) It is in the pursuit of trying to solve the main environmental problems and preventing serious environmental and health concerns abroad. The work is carried out through collection and documentation of knowledge so as to provide input at National, EU and International level with regard to environmental policy implementation. The consultation process is one example of how they can collaborate. (SEPA, 2011)

*The Swedish National Board of Housing, Building and Planning*<sup>16</sup> (*Boverket*): Boverket is “the central Government authority for town and country planning, management of land and water resources, building and housing.” (Boverket, 2010) They are accountable for certifying that “ecological, economic, cultural and social aspects” are taken into consideration when planning. They take part in the consultation process from a system’s perspective regarding the issues mentioned. (Boverket, 2010)

*The Geological Survey of Sweden*<sup>17</sup> (*GSS*): the GSS is an expert authority in matters concerning rock, soil and groundwater in Sweden. There are 16 national environmental quality targets set by the Swedish parliament. The GSS has the responsibility for the target of “ground water of good quality” and they also aim for a decreased use of natural gravel. (GSS, 2011) Their expertise, responsibilities and concerns for the targets are what they bring to the consultation process.

*The Swedish Society for Nature Conservation*<sup>18</sup> (*the Society*): the Society is an environmental organisation working for the distribution of knowledge of, and surveying of environmental threats, finding solutions to such threats and lobbying politicians and public authorities on their concerns. Their main concerns are climate issues, the oceans and seas, forests, environmental toxins and agriculture. (SSNC, 2011) These are the issues they lobby for in the consultation process.

*Neighbours - private interests*: neighbours are a multifaceted group of Stakeholder. They may be urban or rural private individuals living next to or nearby, in this case, a road project with water operation. They may be, in urban areas, business people (owning a factory, shop or have real estate), and/or in rural areas, they may be landowners such as farmers. Their interests may

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<sup>15</sup> Naturvårdsverket

<sup>16</sup> Boverket

<sup>17</sup> Sveriges Geologiska Undersökning

<sup>18</sup> Naturskyddsföreningen

be quite different from each other, although all of them are protecting their needs and wants according to their particular interests during the consultation processes.

### **3.3.2 The Courts and the Operator in the Permit Procedure**

A permit application for water operation(s) is sent in to the applicable Land and Environmental Court<sup>19</sup> (the Court), by the Operator pursuant to Chapter 11 of the Code<sup>20</sup>. The Court handles the permit application and gives a verdict. Any party to the case can appeal against the verdict to the Land and Environmental Court of Appeal<sup>21</sup>; cases can be appealed to the Supreme Court of Sweden<sup>22</sup> (see cases in chapter 4, this thesis). For further information about the Courts, see chapter 5 of this thesis.



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<sup>19</sup> Mark- och Miljöödomstolen

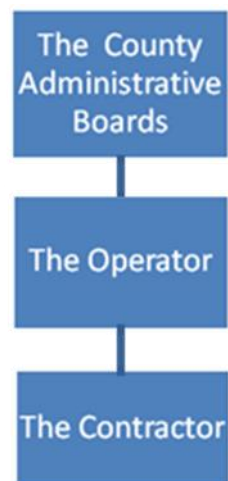
<sup>20</sup> See Appendix II, p.65

<sup>21</sup> Mark- och Miljööverdomstolen

<sup>22</sup> Högsta Domstolen

### **3.3.3 The County Administrative Boards, the Operator and the Contractor in the realisation and supervision of the Operation(s)**

Once a permit is granted, the Contractor, who is appointed by the Operator, comes into the picture and gets involved with the operation's realisation. The supervisory authority at this stage is the County Administrative Board or Boards who work(s) to ensure that the permit and its conditions are complied with. See Chapter 5 for more detail on the Stakeholders and their views. See Chapter 26 Section 19 of the Code in Appendix II p. 68 for the legal provisions.



## **4 Water Operations and their Permits**

There will, in this Chapter, be a review of selected provisions of the present Swedish legislation, case law and doctrine relevant to the permit process of water operations in road projects. The Swedish Environmental Code (Miljöbalk 1998:808) has in total 33 Chapters. As previously stated, the procedural rules at the Courts will not be dealt with in this Thesis.

Court cases in this Chapter are collected from the (Land- and) Environmental Court of Appeal<sup>23</sup>, i.e. the highest Court for cases of environmental matters with concern to water operations in road and railway projects. Railway projects are included, due to the low number of Court cases available on road projects (further developed in the Analysis, chapter 6), and since their similarity when involving water operations are so great, conclusions can be drawn analogously. See chapters 3 and 5 for more details on the mission of the Court. From the EU Court of Justice there will only be a few cases, and those will concern the national implementation of directives during the transposition period.

The full text version of all the sections from laws and regulations described in this Chapter, are found in Appendix II and III of this Thesis.

### **4.1 General Aspects in Water Operations**

#### **4.1.1 Present Legislation**

In the Proposition (1997/98:45) of the Swedish Environmental Code, the lawmaker's intentions are shown. There is also a specific law for water operations; Act (1998:812) Containing Special Provisions concerning Water Operations (Lag 1998:812 med speciella bestämmelser om vattenverksamhet). The proposition to this law is included in Proposition (1997/98:45).

This review of present legislation starts with the essential chapter in the Environmental Code for water operations, i.e. chapter 11. Then chapters 2, 4 and 7 will follow, and at the end, provisions from the Act of (1998:812) Containing Special Provisions concerning water operations.

“Filling” in **Chapter 11** Section 2 paragraph 1 is a measure at least partially aimed at achieving a water plant, such as a causeway or pier. The concept of "digging" also involves dredging and sand suction. The measures specified in this paragraph constitute water operation, even if they do not entail, or intended to modify the water depth or location. This does not apply to “other measures” that on contrary shall aim at such a change; this expression includes for example water regulation, (see definition in Section 5, Paragraph 2), and other regulation of water runoff and re-digging of a river trench. (Strömberg, 2011)

“Groundwater” (Paragraph 2) is the water which is below the soil surface, which fills the cavities in the bedrock and soil layers between the loose fragments of rock. The diversion can refer to both the assimilation of ground water, e.g. for municipal or industrial water supply, heat generation or irrigation, which is defined as the water source in Section 5 Paragraph 1, as

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<sup>23</sup> Since 1 May 2011 the Environmental Court of Appeal has changed its name and has been reorganised. It is now called the Land and Environmental Court of Appeal. However, no relevant cases have been found since 1 May 2011, the Court will therefore be referred to the ‘Environmental Court of Appeal’ in this thesis.

removal of detrimental effect, such as may have leaked into a tunnel or mine. The construction of the tunnel or mine that may affect groundwater conditions is not a Water Operation. (Strömberg, 2011)

Supply of water to increase the groundwater amount, as mentioned in Chapter 11 Paragraph 3, can for example mean infiltration to increase the water accessibility of a groundwater source or to restore the stability of the ground in populated areas with a declining groundwater level. (Strömberg, 2011)

The measures stated in Paragraph 4 corresponds, in substance, to the old Water Act's (1918:523), the Act, classification of "draining of land", i.e. land drainage, including drainage of swamps, bogs and other waterlogged soil, and water diversion and damming. Water derivation was specified in the Act including lowering and draining of a water body, deepening, extension and straightening of a stream, and regulation to protect for example against flooding. Surface impoundment referred to in the Act as the construction of drainage purposes of herding or other building in or at a water area to protect it from the water. The term drainage is not used in the Code, because the measures were not designed to make the land completely dry. The purpose of the measures shall be to increase a building's suitability for a particular purpose, such as farming, housing, or peat mining. It is specifically stated that there should be a question of a lasting improvement; the effect of the measure is what must be sustained. So-called protective ditching is, therefore, not normally attributed to drainage, but may be subject to Section 13 Paragraph 1, second sentence. (Strömberg, 2011)

The main principle in chapter 11 Section 9 is that it requires the permission of the Land and Environmental Court to engage in water operations. Through the legislative change of August 1, 2005 (see commentary on the title prior to chapter 11 Section 9), the Government may prescribe notification instead of a permit for certain water operations. Exception from the permit requirement is also stated in Section 11 and 12, 13 Paragraphs 2 and 4 and sections 15 and 16. A breach of the permit requirements may result in the imposition of criminal liability as well as interventions by agencies on corrective measures, etc. The fact that the permit requirement is linked to the water business does not mean that the granting of permits is limited to this. At the trial should be considered, and if necessary adjusted, all relevant environmental impacts of activities, such as noise, vibration and air emissions (the Environmental Court in NJA 2008 p. 748). Section 9, last paragraph has come about through SFS 2001:437. Proposition 2000/01: 111, 2000/01: MJU18. (Strömberg, 2011)

Section 9 a, came about on 1 August 2005 (Proposition 2004/05: 129, 2004/05: MJU15). The Government authorised to impose permit requirements under Section 9 can be replaced by a notification requirement for certain activities. Section 19 of the Regulation (1998:1388) for water activities, etc. have the 13 points listed, with the Water Operations for which there is a notification requirement. Contrary to the latter provision, the law do not state what criteria to apply for such an injunction; it leaves it up to Government to provide for cases where an injunction may occur. Section 23 Paragraph 1 Point 2 b of the Regulation on Water Operations etc., the Government has stipulated that an injunction may be issued if it is necessary with regard to the operation's impact on the environment or individual interests. (Strömberg, 2011)

Section 9 b Paragraph 1, was established 1 August 2005 (Proposition 2004/05: 129, 2004/05: MJU15), and corresponds to the initial second and third sentences of Section 9 paragraph 1. According to the legislative history the supervisory authority, mentioned in 3, may in the specific case decide that the operation may commence earlier or the initiation may not occur



until later, all depending on what is necessary to enable the Authority to consider the need of possible injunctions regarding precautions. (Strömberg, 2011)

Section 12 deals with the Chapter's exception rule. On August 1, 2005 (Proposition 2004/05: 129, 2004/05: MJU15) there was a change in the law and since then the previous exception from duty to apply for permit also includes the notification cases. An operation can therefore still be excepted from this duty, although the Government has provided the notification requirement for certain kind of water operations, if the criteria of provision have been met. (Strömberg, 2011)

“The impact on water conditions”, Paragraph 1 refers primarily a change in water depth or location, but also the impact on an area's water use, such as for boat traffic. This term also includes the impact on water quality such as haze associated with dredging. It includes impact on wetlands through reduction of the soil's water content and lowering of the groundwater level or decrease of the groundwater amount. A tunnel construction, however, which makes to the groundwater lowered, is not permit required under Chapter 11. Diversion of groundwater, which has leaked into the tunnel, may be subject to permit if the diversion contributes to the lowering of the groundwater level, but not otherwise; see cases below from the (Land- and) Environmental Court of Appeal. A planning permission is generally required for tunnels pursuant to Chapter 8 Section 2 Paragraph 1 of the Plan and Building Act. Then shall the tunnel's effect on the groundwater conditions also observed. (Strömberg, 2011)

**Chapter 2**, Section 3 the Code is the main section where the aim is to establish the obligation to do everything possible to prevent human health and environmental risk of a permit applicant's operations. Sections 4 -6 specify the special circumstances that may occur. All kinds of limitations of the activity may be required to avoid jeopardizing the health and environment. Precautions should be taken. The possibility to, in connection with the granting of permits, set conditions for the activity based on precaution has been tried by the Supreme Court in NJA 2004 s.421. The Supreme Court's verdict has since been interpreted and clarified in several judgments of the Environmental Court of Appeal, see below. Measures that may be conditioned for the operation can be within all kinds of different areas that the caution requires. If it is unexplored that there are probable links between the activity and the inconvenience, the operation must still take such measures that may be required in line with the precautionary measures. (Kruse, 2011)

Environmental objectives form the basis upon what measures are necessary to be taken. This means that for example the impoverishment of natural resources and biodiversity are not permitted when they are damaging or exposing the environment to the nuisance. This broad approach may cause a situation where difficult considerations must be taken between the various environmental concerns. As for human health, both physical and psychological harm must be taken into account; this at a level of people in general. Vulnerable people, such as the allergic ones should nevertheless be taken into account. (Kruse, 2011)

Section 9 of Chapter 2 says that the Government shall determine if there are special reasons to operate, despite the safeguards required by this Code, and if the activity will result in harm or inconvenience of great importance to human health or the environment, or pose a risk of deteriorating living conditions and of environmental degradation for a large number of people. The Government may in some cases, suspend the consideration of people and the environment and permit the activity. This requires benefits to the public and private so large that the damage can be accepted. Examples of such areas may be waste management, communication/infrastructure and defence. When the government has allowed the activity, it cannot be prohibited by a subsequent permit examination. (Kruse, 2011)

The ‘Stop Rule’ in Section 9 of Chapter 2 of the Code means that new activities may not start, or that an ongoing activity can be prohibited. Even activities that have been granted permit under other provisions can be stopped by this Section. The person stopped cannot claim compensation for not being able to pursue and develop its activity since it is considered to be in an important public interest that the activity is not run. Reasonable safeguards and precautions must first be established. The inconveniences and damages that remain after that that are to be assessed. (Kruse, 2011)

Harm or inconvenience has a broad meaning. The Code’s goals, including those on sustainable development provides a far-reaching application. Nuisance shall be assessed from an overall, general view. Several activities that are within a sensitive or affected area could be the basis for the ban of one or more of the activities and it does not demonstrably have to be linked to a single, individual activity. Both permanent damage and more transient effects should be assessed. It is the joint effect of activities or actions that shall be taken into account. It shall also be assessed whether there is a disproportionate cost of the necessary precautions. The assessment should take into account what is normal under similar conditions elsewhere in the country. (Kruse, 2011)

**Chapter 4** Section 8 of the Code is connected to the provisions of chapter 7 Section 27-28 b. In the cases where an activity or measure require a permit under Chapter 7 Section 28 a of the Code, because of interference with a special protection or conservation area, this rule should ensure that the approved plans or permit is granted only after the trial made under this special rule, see Proposition 2000/01: 111 p. 46. The rule(s) implicated here are certain rules of the Code, the Plan and Building Act or the Roads Act (1971:948) (Michanek, 2011)

Section 27 of the **7<sup>th</sup> Chapter** (corresponds partly to the former Section 19 a of the Environmental Protection Act) was established in 1994 to meet Sweden’s commitments under international conventions and the Swedish membership of the EU.<sup>24</sup> The Swedish Environmental Protection Agency shall, in accordance with Section 15 of the Regulation (1998:1252) on the Perimeter pursuant to the Code, etc., keep an inventory of the natural areas identified in the provision. (Persson, 2011)

According to Section 28, after the establishment of the legislation of 2001 are special protection areas and special conservation areas constituting special forms of protection (the area is at the same time protected by other rules of the Code, such as Nature Reserves). “The protection enters already in the list pursuant to Section 27.” (Persson, 2011)

Section 28 a includes a fundamental prohibition of carrying out activities or undertake measures with significant impact on the special protection and conservation areas without permission, with certain exceptions in paragraph 2. If there is a likeliness of significant impacts to occur detriment to the environment in the area permit is required from the applicable County Administrative Board (Section 29 b) or the Court at water operations; the application is examined pursuant to Chapter 7 Section 28 b and 29, permit may only be granted here after the Government has approved of it. The application shall include an Environmental Impact Assessment (Chapter 6 Section 1) with certain specific requirements of the content (see Chapter 6 Section 7 Paragraph 4). (Persson, 2011)

Section 28 b gives the prerequisites for a permit to be granted under Section 28 a. The influence of other ongoing or proposed activities and measures which entail risks of harm to the area’s environment or disturbances of protected species may also be considered here.

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<sup>24</sup> The Birds Directive, 79/409/EEC, and the Habitats Directive 92/43 / EEC, see Regulation 1994/95: 117 p. 25-32.

Risks of harm that are quite distant can also be a barrier for getting a permit approval. Should permit be refused to a landowner can he or she be compensated under certain premises (for further interest, read Chapter 31 Section 4 Paragraph 5 and Section 5). (Persson, 2011)

**Act (1998:812) Containing Special Provisions concerning Water Operations** (Lag (1998:812) med särskilda bestämmelser om vattenverksamhet) is applicable to Water Operations pursuant to Chapter 11 of the Environmental Code and the definitions thereof, Chapter 1 Section 1 and 2 Act (1998:812).

The provision of Chapter 2 Section 1 Act (1998:812) has the character of a legitimacy rule. In cases where a permit is required such as for water operations, having the “right over the water” is a prerequisite for process and shall be considered by the examination body off its own record (NJA 1993 p.331). Persons who want to pursue a water operation must have the right pursuant to Section 1. In Section 4 this right is extended beyond the real estate owner to others than the owner if the operation is listed in this Section. The persons do however still need to apply for permit pursuant to Chapter 11 of the Code. With public roads, in Point 4 is meant roads made available for public communication pursuant to Chapter 1 Section 1 of the Roads Act (1971:948). (Strömberg, 2011)

#### **4.1.2 Court Cases**

##### **Case MÖD 2010:47 - When a water operation is at hand and permit application is required**

In the Environmental Court of Appeal’s (the Court of Appeal) case MÖD 2010:47 the question was whether a trench had been pruned and widened or considered to be deepened as well. In case it would be found deepened, it is to be considered a water operation and therefore a permit would be necessary. The matter was brought to the Court of Appeal by the real estate owner since the Environmental Court (the Court) had dismissed the case and the County Administrative Board (Board) had left the complaint of the ditch pruning without taking any measures. The Court of Appeal found it shown that the activity was a deepening of the trench and therefore a permit obliged land drainage. The Court’s verdict was abated and the case was remitted to the Board. (MÖD 2010:47)

*Legal rules in this Court case:* the Environmental Code Chapter 11 Section 15, Chapter 16 Section 10, and Act (1998:812) Containing Special Provisions concerning Water Operations Chapter 2 Section 5.

##### **Case MÖD 2004:27 - When a water operation is at hand and permit application is required**

MÖD 2004:27 case was dealing with a bridge construction close to one kilometre in total length. The main issue was whether the construction of the railway bridge as a whole was to be considered as a permit obliged water operation or if permit could be granted for two separate bases in direct contact with water. The difference between these permit options is that a water operation may only be permitted if its advantages from a public and private point of view are greater than its costs and disadvantages; the other permit however does not consider these interests and thus is easier to acquire. (MÖD 2004:27)

The Court of Appeal found that the most natural was to consider the bridge as a whole, as one facility for which permit is required pursuant to Chapter 11 Section 9 of the Environmental Code. (MÖD 2004:27)

*Legal rules in this Court case:* the Environmental Code Chapter 11 Section 2 and Section 9.

### **Case MÖD 2003:80 – Protective measures**

The Environmental Court had granted the applicant permit to groundwater diversion, and management of storm water with added process water from a railway tunnel. Protective measures were however prescribed to be taken for limiting the amount of groundwater needed to be diverted. The verdict was appealed by the operator. (MÖD 2003:80)

It was established by the Court of Appeal that there was no public nature interests that could be damaged by the water operation applied for. The only damage that could be caused by the lowering of groundwater level was influence on private wells and agricultural land. The Court of Appeal found conclusively that the costs for taking the prescribed protective measures were unreasonably high compared to the benefit of the measures. The requirement of protective measures was abated by the Court of Appeal. (MÖD 2003:80)

*Legal rules in this Court case:* the Environmental Code Chapter 2 Section 3; public nature interests, private interests

### **Case MÖD 2003:100 – ‘The Stop Rule’**

A number of real estate owners had appealed the verdict of an Environmental Court to grant a permit for diversion of groundwater at a railway tunnel construction to the Court of Appeal. The real estate owners demanded that the Swedish Rail Administration (nowadays a part of the STA) should not have the permit they had applied for. This permit meant that the Administration could divert on average a 100 litres/sec. of groundwater leaking into the railway tunnel and discharge the diverted water. (MÖD 2003:100)

The Court of Appeal did not change the permit given by the lower Court, but did however make some complements and changes of the conditions. It was established by the Court of Appeal that the bedrock needed to be secured against leakage to varying extents before drilling was to be done, in order not to exceed the 100 litres/sec. of diverted groundwater as stipulated by the permit. The groundwater diversion risked damaging endangered habitats within certain Natura 2000-areas on the Hallandsåsen Horst. Therefore the Administration had to restore water to the areas sensitive to drought. The Court of Appeal in the end found, that there were technical possibilities to manage the environmental requirements. A prerequisite was however that the tunnel project would be organised so that the Administration had complete control and insight in all working elements that could influence the environment. (MÖD 2003:100)

*Legal rules in this Court case:* the Environmental Code Chapter 2 Section 3 and 9, Chapter 6 Section and 7, Chapter 7 Section 28 a and 29 b, Chapter 11 Section 2 and 6, Chapter 16 Section 6, Chapter 26 Section 19.

### **Case MÖD 2003:112 – ‘The Stop Rule’**

The applicable Environmental Court had given permit to the construction of two railway bridges. There were a couple of neighbours that appealed the verdict finding that the operation ought to be permit examined pursuant to Natura 2000-rules in Chapter 7 Section 27-28 b of the Environmental Code (the Code). (MÖD 2003:112)

Initially, the Court of Appeal stated that the construction of the bridges was according to the defined railway plan. The examination pursuant to the Environmental Code was therefore only a matter of whether significant damages and inconveniences could occur at the construction and operating of the railway. The next step was to establish the conditions for the operation. Regarding the first part, that the operation was not subject to ‘the stop rule’ in Chapter 2 Section 9 of the Code both Courts agreed. The Court of Appeal did make one condition stricter with regard to the preservation of the salmon trout’s spawning in the River of Ljusnan. (MÖD 2003:112)

Continuously, the Court of Appeal found that the railway bridges would affect a Natura 2000-area and the rules in chapter 7 of the Code were pursuant to the areas applicable in the case. The Environmental Impact Statement had been complemented with regard to the operations’ impact on the species in the area. It was further stated that the investigation of the case showed that the construction of the railway bridges, given the conditions for the construction, could not affect the environment within the Natura 2000-areas in a significant way. Conclusively, the Court of Appeal found that the same was applicable to operating the railway and therefore no permit was required pursuant to chapter 7 Section 28 a of the Code. (MÖD 2003:112)

*Legal rules in this Court case:* the Environmental Code chapter 2 Section 9, Chapter 4 Section 8, Chapter 6 Section 3 and 7, Chapter 7 Section 27, 28 and 28 a, Chapter 11 Section 9 and 23.

### **4.1.3 Summary of Court Cases**

‘The Stop Rule’ in Chapter 2 Section 9 of the Code has in no case stopped a road project due to water operation(s). It is therefore uncertain what would be required for a road project to be stopped due to water operation causes. The guidance existing is only by changes in conditions towards stricter measures reflected in the grounds for the decisions and the verdicts. (MÖD 2003:100, MÖD 2003:112)

Cases of other matters of general character are limited in number, i.e. three. Operations where a permit is required are presented through two cases. (MÖD 2010:47, MÖD 2004:27) These cases are clear, but cover only two of the many water operations possible to take place. All the other operations mentioned in chapter 11 of the Code lack precedential cases with regard to road projects.

With regard to protective measures, there is but one case. This case presents the difference between private and public interests. It clarifies private interests, but does not tell when public interests qualify for protective measures. (MÖD 2003:80) Conclusively, the case law concerning general aspects of water operations in relation to road projects are few if not scarce.

## **4.2 Environmental Impact Statements in Water Operations**

### **4.2.1 Present Legislation and Legislative History**

The provisions under Chapter 6 Section 1 of the Code mean that in principle an Environmental Impact Statement (Statement) is required for all permits pursuant to the Code except for genetically modified organisms under Chapter 13 and for chemical products and biotechnical organisms under Chapter 14. In Section 2 of the Regulation (1998:905) on Environmental Impact Statements there is exception given from the Statement requirement

for some permits. The exception rule in Point 3 includes the application for land drainage whose environmental impact is of no significance. (Wikström, 2011)

The interaction between the factors enumerated in Chapter 6 Section 3 shall be taken into account according to Proposition 1997/98: 45, Part 2, p. 56.

Section 4 regulates the consultation process to be held before a permit application and environmental impact assessment; last update of the section was 1 August 2009. The change was in the context of the new authorisation for the Government in Chapter 9, Section 6, Paragraph 2. This gives them the right to issue regulations on the obligation of the supervisory authority to impose an operator to apply for permission in cases where the activity has a risk of causing significant pollution or other significant harm to human health and the environment. (Wikström, 2011)

Section 4 first Paragraph has been split into two points with a view to clarify when consultation should be conducted with a wider circle of stakeholders. The first point states the slightly smaller circle that the operator should always consult prior to application, i.e. the County Administrative Board, the supervisory authority (unless the Board) and the individuals likely to be particularly affected. Individuals who are likely to be particularly affected means above all the neighbours and others to be specifically affected, in many cases these individuals will also be having the right of standing at Court. (Wikström, 2011) It does not include the wider public; Proposition 1997/98: 45, part. 2 p. 57, and Proposition 2004/05: 129 p. 89.

The wider consultation circle is dealt with in the second point. Central government authorities are often likely to be affected by activities with a greater extent and therefore included are: the Swedish Environmental Protection Agency, the Swedish National Board of Housing, Building and Planning, and the National Heritage Board. 'Public' as referred to here is not limit to the neighbours or the local population, but has a broader meaning. Organisations that can be included are the environmental and conservation organisations. (Wikström, 2011) Consultation will take place in the wider circle in a) as regards the activities to be likely to have significant impacts due to regulations issued by the Government under the authority of Section 4 a, according to b) when the regulator set before the operator to apply for a permit under Chapter 9 Section 6, second subparagraph, and pursuant to c) for activities which are deemed to have significant environmental impact due to the Board's decision in the specific case pursuant to Section 5, Paragraph 2.

The consultation shall as earlier continue to be carried out well in advance before the application and the Statement is done. The operator can from start initiate the consultation with the wider circle that applies to activities having a significant environmental impact, if the activity has been identified as such. (Wikström, 2011) In case the County Administrative Board would decide that the activity is not likely to have significant environmental impacts pursuant to Chapter 6, Section 5, the Land and Environment Court (at water operations) can still reach a different conclusion when the application is filed, Proposition 1997/98: 45, Part 2, p. 58.

In Section 7, with the wording slightly changed on 1 August 2005 states in the first paragraph that a fundamental requirement for all activities is that the Statements meet the purpose pursuant to Section 3. It is further clarified that the Statement shall have the content justified for the particular case. The requirements given in paragraph 2 with regard to activities that are likely to have significant environmental impacts, corresponds to the requirements of Article 5 and Annex 4 of Directive 85/337, as amended by Directive 2003/35/EC. (Wikström, 2011)

“An activity or action impact” is referred in the first place to things such as the nature, intensity and extent that the disruption can bring. In addition, all the other consequences of importance to health and the environment that the activity or measure is likely to have shall be reported. (Wikström, 2011) “Other consequences” are also things that the activity or action can generate in addition to direct environmental impacts, such as additional car traffic in the area where the business is established, Proposition 1997/98:45, Part 2, p.62 compared with Chapter 16 Section 7.

In most cases it should be possible and necessary to account for alternate sites for the Statement’s fulfilment of its role. An alternative location shall not be required, if, because of the activity’s special nature there is only one place to locate on, for example a certain mineral resource at a specific location. The zero alternative, i.e. that the activity will not take place at all, shall almost always be accounted for. (Wikström, 2011) The authority granting permits, the Land and Environmental Court at Water Operations determines whether the applicant may choose to omit giving alternative locations, see Proposition 1997/98: 45, Part 2, p. 63.

Section 7 Paragraph 4 was amended on 1 July 2001<sup>25</sup>. This amendment means that an Environmental Impact Statement should always contain the information needed to do the examination referred to in Chapter 7 Section 28 b and 29. (Wikström, 2011)

In the Regulation of (1998:905) on Environmental Impact Statements there are provisions as to when an Environmental Impact Statement is exempted and what ‘Significant Environmental Impact’ means. These provisions help when judging whether or not a planned operation would make a ‘Significant Environmental Impact’. See Appendix II of this thesis.

## **4.2.2 Court cases**

### **Case MÖD 2007:50 - Which environmental effects need to be shown in the Environmental Impact Statement**

The applicable Environmental Court gave permit for groundwater diversion from an access tunnel for the so called City Lane (railway) in central Stockholm to the operator. Both the operator (applicant) and private subjects appeal to the Court of Appeal on various grounds; these will not be accounted for here. (MÖD, 2007:50)

The Court of Appeal found that the Environmental Impact Statement in the previous permit application should have included information on the tunnel’s closer localisation and the collected groundwater impact of the project. There should also have been evident in the Statement what other environmental effects the operation as a whole could be causing. (MÖD, 2007:50) If a Statement has serious faults, the consequence may be that “the application cannot be used as a basis for examination” (the Code, Chapter 22 Section 2 Paragraph 2) and the court shall therefore reject the application. The faults can be remedied, but only if they are small. (MÖD 2002:15, MÖD 2002:39)

Finally, the Court of Appeal considered the faults of the Statement to be so serious that the application cannot work as the basis of the examination. The application shall therefore be dismissed and the Environmental Court’s judgement with regard to the permit for water operations (groundwater diversion) be abated. (MÖD 2007:50)

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<sup>25</sup> Amendment done pursuant to certain requirements of the Habitats Directive (92/43/EEC) and Birds Directive (Directive 79/409/EEC) (Proposition 2000/01: 111).

*Legal rules in this Court case:* the Environmental Code Chapter 2 Section 3, Chapter 11 Section 2 Point 2, Chapter 16 Section 7, Chapter 22 Section 2 Paragraph 2.

### **Case MÖD 2003:27 - Requirements for Environmental Impact Statement**

The Environmental Court in Växjö (the Court) found the Environmental Impact Statement handed in with the permit application, to be unsatisfactorily at the examination. The applicant was ordered to complement the application; this was however not done and the application was then dismissed. (Växjö M 546-99)

The verdict was appealed by the applicant to the Court of Appeal; the Court of Appeal affirmed the lower Court's verdict. In the explanatory statement it was expressed that the information given in the application was not even enough to fulfill very low placed requirements for an Environmental Impact Statement. (MÖD 2003:27)

*Legal rule in this Court case:* the Environmental Code Chapter 6 Section 1.

The cases found with regard to Environmental Impact Statements at water operations in road projects are presented above. They give guidance as to when the Environmental Impact Statement has serious faults and/or cannot fulfill its requirements. When that is the situation, the application cannot work for examination at Court. (MÖD 2007:50, MÖD 2003:27) The application has to be supplemented to comply with the information prescribed by law and regulations. These cases merely dealt with the requirements (MÖD 2007:50, MÖD 2003:27), not with the actual "significant environmental impact" situation(s) that may occur at an operation. Nor do the cases deal with the issue of alternative location. Finally, no case brings up any demarcation problem concerning whom to include or not in the consultation process or matters concerning the consultation itself.

## **4.3 Environmental Quality Standards in Water Operations**

### **4.3.1 Present Legislation**

Chapter 5 of the Environmental Code (the Code) and the Regulation of (2004:660) the Management of Water Environment Quality are dealing with Environmental Quality Standards. There are five Water Authorities in Sweden with a corresponding district and the Standards are to be set by each Authority within their district. The Regulation is based on the Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (WFD).

The Environmental Quality Standards (the Standards) may relate to the environmental quality of all recipients in accordance with Chapter 5, Section 1 Code. (Wikström, 2011) The Government has issued Standards for water for example, to this paper the relevant Regulation (2004:660) on the Management of Water Environment Quality.<sup>26</sup> Section 2 was amended from 22 December 2003 (Proposition 2003/04: 2 p. 21 f. and 32) to create the opportunity for a more flexible use of the environmental quality of the government of Section 1 have been authorized to prescribe. The previous wording was mainly focused on standards for threshold

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<sup>26</sup> There are a number of EU Directives on environmental quality, in addition to the Water Framework Directive, including the European Parliament and Council Directive 2006/118/EC of 12 December 2006 on the Protection of Groundwater against Pollution and Deterioration. Directives of this kind have hitherto often been and is likely to continuously be the starting point for the standards issued nationally; Proposition 1997/98: 45, Part 1, p. 254.



values, “i.e. standards that certain values must not be exceeded or fallen below after a certain time and that can be linked to provisions for penalties.”(Wikström, 2011) The Standards similar to those remains, and is described in Section 1 Paragraph 1. Gradually more stringent requirements made possible by Point 1 during a specified period of time. Environmental Quality here means the state with respect to the presence of contaminants and certain other disorders. “The supply given to various receptors of environmentally hazardous substances or other disorders that can be accepted for some time is thus not a direct expression of what is here meant by environmental quality.” (Wikström, 2011) A Standard gives no right to pollute or interfere with the up or down to the specified standard pursuant to Proposition 1997/98: 45, Part 2, p. 43 ff.

Paragraph 2 describes the standards that are so-called objective standards. These will indicate the pollution and noise levels to be pursued, or that should not be exceeded or fallen below. (Wikström, 2011) A standard contained in paragraph 3 is called ‘indicative’. The presence of algae in lakes or coastal waters or harmful micro-organisms in surface water and groundwater are examples of such so-called bio-indicators, Proposition 1997/98: 45, Part 2, p. 44.

Paragraph 4 gives the Government the opportunity to adapt the Environmental Quality Standards to other requirements pursuant to the Swedish EU membership. If a Standard arising from EU law is not a threshold value, objective standard or indicative norm, it shall be allocated under this category, known as other standards. (Wikström, 2011)

Section 9 covered previously only measurements, but has from July 1, 2002 expanded to include control in general of the compliance of an Environmental Quality Standard (Proposition 2001/02: 65 p. 33). This supervisory task can for example be prescribed to the National and Regional Environmental Monitoring or Municipalities. The government is pursuant to Paragraph 2 entitled to issue regulations on sampling and control in general of a Standard’s compliance and how that should be accounted for (Proposition 2001/02: 65 p. 33). The authorisation was expanded in 2010 to cover also the approval of measuring methods and measuring equipment. (Wikström, 2011)

### **4.3.2 Court Cases**

There are no Swedish Court cases specifically dealing with Environmental Quality Standards in water operations yet.

#### **Cases from the Court of Justice of the European Union – How to consider Directives during the Transposition Period**

The cases below do not concern the Water Framework directive. It can however be considered analogously applicable with the cases below since they concern the implementation of Directives and tell the Member States how to handle provisions of Directives during the transposition period.

The Court of Justice found in the Inter-Environnement Wallonie Case, C-129/96 that:

“44. Nevertheless, it is during the transposition period that the Member States must take the measures necessary to ensure that the result prescribed by the directive is achieved at the end of that period.” (C-129/96)

***The above case was followed by the joined Cases C-165/09 to C-167/09*** Stichting Natuur en Milieu and Others v College van Gedeputeerde Staten van Groningen and College van Gedeputeerde Staten van Zuid-Holland where the Court of Justice established that:

“85. It follows from that obligation that, during the period prescribed for transposition, the Member States must take the measures necessary to ensure that the result prescribed by the directive is achieved at the end of that period (Inter-Environnement Wallonie, paragraph 44). The same is true as regards a transitional period, such as the period provided for in Article 4 of the NEC Directive.” (C-165/09 to C-167/09)

Since there are no Swedish court cases hitherto concerning the Standards no one can know for sure until after 2015 what the case law development will look like. Nobody can be certain on how the Courts will handle the Standards. The EU Court of Justice will take on cases to determine whether the member states have accomplished their obligations under the Water Framework Directive 2000/60/EC; that will also be after the end of 2015.

#### 4.4 Doctrine

There is a perception that the Environmental Code sets higher requirements on Environmental Quality Statements at construction projects than compared to what previous rules in the environmental field historically has done. (Olander, 2001) Further, the requirements of the Statement content always ought to be placed in relation to the purpose of the procedure, i.e. describing and identifying the direct and indirect effects that a planned operation could cause. (Rubenson, 1999 in Olander, 2001)

There have been changes of the Environmental Code (the Code) with regard to Action Programmes and the application of the Environmental Quality Standards during spring 2010. A clarification has been done in the Code in the sense that it is the authorities and municipalities that are responsible for the compliance of the Standards. There is also the difference in legal effects of the Standards depending on if it is a threshold value, objective standard or indicative standard. The possibilities the Code gives with regard of putting more far-reaching requirements for complying with a Standard shall only apply to threshold values. (Billquist & Hall, 2010)

The Action Programmes shall be guiding for the need of such requirements (for the Standards). It shall be clear how the requirements of improvements are to be divided between various types of sources and measures, how large improvements are made by each measure and how the measures are meant to be financed. (Billquist & Hall, 2010)

#### 4.5 Summary of the Chapter

The legislation covering provisions for water operations is detailed with its laws and regulations. Sweden has harmonised EU directives as obliged due to its commitment as a member state. Whether the Swedish legislation has sufficiently implemented the Environmental Quality Standards (Standards) are yet to be seen after the deadline by the end of 2015.

There is no case where the ‘Stop Rule’ in Chapter 2 Section 9 of the Code has stopped a road project due to water operation(s) matters. It is therefore uncertain what would be required for a road project to be stopped due to water operation causes. The guidance existing is only by changes in conditions towards stricter measures reflected in the grounds for the decisions and the verdicts. (MÖD 2003:100, MÖD 2003:112)

Cases of other matters of general character are limited in number, i.e. three. Operations where a permit is required are presented through two cases. These cases are clear, but cover only two of the many water operations possible to take place. (MÖD 2010:47, MÖD 2004:27) All the other operations mentioned in Chapter 11 of the Code lack precedential cases with regard to road projects.

With regard to protective measures, there is but one case. This case presents the difference between private and public interests. It clarifies private interests, but does not tell when public interests qualify for protective measures. (MÖD 2003:80) Conclusively, the case law concerning general aspects of water operations in relation to road projects are few if not scarce.

The cases found with regard to Environmental Impact Statements at water operations in road projects are limited in aspects covered thereof. These cases merely dealt with the requirements, not with the actual “significant environmental impact” situation(s) that may occur at an operation. (MÖD 2007:50, MÖD 2003:27) Nor do the cases deal with the issue of alternative location. Finally, no case brings up any demarcation problem concerning whom to include or not in the consultation process or matters concerning the consultation itself. When already at the consultation stage things are left out or being insufficiently handled; how that should be prevented does not have any precedents at Court.

Since there are no Swedish court cases hitherto concerning the Standards no one can know for sure until after 2015 what the case law development will look like. Nobody can be certain on how the Courts will handle the Standards; what requires of a Standard’s status to be good and how to deal with the borderline cases. The EU Court of Justice will take on cases to determine whether the member states have accomplished their obligations under the Water Framework Directive 2000/60/EC; that will also be after the end of 2015.

## 5 Stakeholders and their Views

The order in which Stakeholders' views are presented in this Chapter relate to the order in which involvement at consultation and permit procedures for water operations would usually occur. Although presented last, the main contractor Stakeholder (see 5.13), who steps in once the permit has been granted to carry out the work on site, is very important for the fulfilment of the permit granted.

The questions were focused on the consultation process for the application of permit for Water Operations including the Environmental Impact Statement and the Environmental Quality Standards. The use of the rule making exceptions from permit application or notification possible is also covered. The conditions of granted permits for example control programmes, the supervision of operations, and the Stakeholders' views on the (Land and) Environmental Courts were also included.

The way the Stakeholders relate to each other justify the inclusion of them in this Thesis are described in Chapter 3. The purpose of the interviews is interconnected with the legal rules presented in Chapter 4 in the sense that the interviews show how the rules are applied in real life.

The questions posed to the interviewees are posted in Appendix IV of this Thesis. The results of the interviews are, within each section presented in the same chronological order as the questions were asked to the interviewees.

### 5.1 The Swedish Transport Administration<sup>27</sup>

#### 5.1.1 The Mission of the STA Stakeholder

The Swedish Transport Administration (STA) is the agency accountable for all forms of traffic in Sweden. This includes traffic on roads and railways, at sea and in the air. The STA construct, maintain and operate all the nation's roads and railways. Furthermore, both private and professional driving licenses are issued by the STA. They design and provide the necessary knowledge for the driving tests that are required for these licenses. (STA, 2011)

STA take a long-term planning approach to all their work. For example, when the STA decide to build a new road or bridge, or repair existing roads or bridges they investigate whether permits are required and, if so, what kind. (STA, 2011) The issue of Road Construction Permits and their funding will be very briefly mentioned in this thesis but only in relationship to Water Operations. The focus instead will be on the prior Consultation processes and Permit application procedures for water operations; see Chapter three. In such processes and procedures the STA is normally the operator. The STA has thus the responsibility of summoning Stakeholders to consultation meetings, writing the permit applications, including an Environmental Impact Assessments, and they participate in the permit application procedure in Court. Assistance and advice is given by the relevant County Administrative Board during the permit application process. (STA, 2011)

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<sup>27</sup> Trafikverket

### **5.1.2 The STA Stakeholder Interviews**

By choosing three STA interviewees with different roles within the organisation it was hoped that they would provide a broad STA Stakeholder perspective.

The first interviewee was an environmental specialist on water operations from the STA in a Northern office. She worked in several counties. Normally she would be working in the field conducting and documenting on-site investigations.

The second interviewee was an environmental specialist at the planning office of the STA in Stockholm. He had a more nationwide view of projects together with experience of urban issues encountered in big cities.

The third interviewee at the STA was an environmental specialist in Gothenburg. He had the experience and perspective of working in both urban and rural areas of Western Sweden.

The view on the use of exception from permit application and notification in the Code, Chapter 11 Section 12 and therefore also consultation in water operations is that no public or private interests are harmed; this rule is to be used restrictively. (X, Stenlund, Sundqvist, 2011)

Therefore the following steps always need to be taken before any exemption. Regardless of whether private or public interests could be harmed, legal texts must first be consulted for interpretation. (Stenlund, 2011) An operation could be exempted if there is not obvious predictable harm. (Sundqvist, 2011) As the responsibility for exemption lies with the operator it is important for them to make a judgement that is based on solid evidence, otherwise they may be subject to criticism at a later date. (Stenlund, 2011) Precautions need to be taken as any initiated project can be halted if there is no permit or if something occurs which causes harm when there is no permit or where there was no operation notification. (Sundqvist, 2011) Thus it is advisable that initial investigations, for example geological examinations and surveys, should be carried out. Concerned stakeholders (e.g. land owners where disposition of water is to occur) should be consulted followed by discussions with the relevant Supervisory Authority to ensure they have made the same judgement. (X, 2011) An example of exceptions is clearance (the Code 11:15).

When an operation involves the protection of a Biotope (uniform environmental conditions) in a cultivated farming area, notification of the operation should always be made and this notification may be sufficient. (Stenlund, 2011) However a permit is mandatory for operations such as ground water diversion, hydrologic examinations or material from test pumping as precautionary and safety measures need to be applied. These operations are not on the notification list stipulated by the Government and therefore not excepted from permit. It would be advantageous for the operator if these operations were on the list excepted from permit; this would save time and money. (Sundqvist, 2011)

When it comes to the consultation process the County Administrative Boards (the Boards) often differ in their approaches, but the Boards are generally cooperative in relation to finding solutions with the operator. The relevant municipality, irrespective of its size, is summoned to participate in the consultation process from the start even though this is not a legal requirement. Direct consultation, both on and off-site, with the relevant expert in the field is always preferable (Stenlund, 2011)

The Environmental Impact Statement (EIS) needs to contain evidence from preliminary studies including biological values. The goals of the operation need to be stated and include what is essential for completion of the project. The STA usually combine several project water

operations into one Statement so as to avoid unnecessary repetitive work. (Stenlund, 2011) Sometimes a Board has insufficient knowledge about particular local environmental circumstances but this shall be supplied by the STA or another expert. (Sundqvist, 2011) The STA can usually supply the Board with threshold values. (Stenlund, 2011)

If a water operation is likely to have Significant Environmental Impact a so called consultation with an extended connection pursuant to the provisions of the Code, chapter 6 section 4 p.2 can be applied. The STA can suggest alternatives to the Board, immediately. If the Board argues that consultations should be an extended connection, then the STA is obliged to follow their advice. Occasionally the STA chooses the “consultation with an extended connection” option from the start in order to save time on urgent projects. At other times the choice as to whether to extend consultation or not can be a dilemma; whom to include in the consultation. (Stenlund, 2011) For example, in Stockholm, with its dense population, there are many private interests concerning people’s and companies’ own environment are often involved. (Sundqvist, 2011)

An example of a Significant Environmental Impact was the Kaitum-Lappberg project where there was frost on the ground during the winter season at LKAB’s ore lane. During the consultation process the landowner had no opinion at all about the problem but the nearby Sami-village did have concerns and so there was continuous dialogue as to how things should be resolved between the SGI, the Board, the municipality of Gällivare, the former Fisheries Agency and the Swedish Environmental Protection Agency; all of whom had no objections to the water operation. (X, 2011)

In the case of the E45 road, between Gothenburg and Trollhättan, because there were conflicting national interests there had to be a balance between the interests of road construction and the interests of Natural and Environmental preservation. This meant balancing the need for good transport systems for private and commercial vehicles and the sensitivity that the road was to pass over an erosive landscape with low or no stability. However, even if the road could be moved to a different location at greater expense, it would not necessarily be much better environmentally because there is an erosive landscape more or less all over that part of the County. In this case, the Board, the municipality and the agency did consult with the STA which resulted in compensation measures being made for natural values. (Stenlund, 2011)

The EU Water Framework Directive of 2000/60/EC and the implementation of Environmental Quality Standards (the Standards) are important, positive initiatives. It will be difficult to reach the Standards by 2015 as an incredibly large number of road culverts need to be sorted out. Each municipality in question is responsible for its municipal roads and STA is responsible for the national roads. Where and what the problems with surface water operations are need to be identified. That is, what are the accidents risks, spillage risks, storm water risks, and the sensitivity of the area and its protective value. (Sundqvist, 2011) Although status description exists the impact of the operation(s) need to be assessed and predicted. Once these are evaluated a judgement has to be made as to how each status could be affected. (Stenlund, 2011) An example of a standard situation is salmon and fishing waters in which suspended substances and background levels are measured. After measuring that, any increased levels that the project expects to contribute with are assessed to determine if the permissible level limit will be expected to be exceeded should the project be realised. (X, 2011)

The attitude towards activity programmes is positive in general as a measure of dealing with the Standards. The shortcomings of the Standards are due to quality stamps taken on poor grounds and the lack of exact quality levels which make the Standards’ values arbitrary. (X,

2011) Further, the bar is set high but adequate, the Standards are difficult to manage due to the limited timeframe to fulfil them, are unclear and there are priority and resource issues to be addressed. If the standard is set, it may not be violated; but when is it violated then? How large may the change be after than before the operation and still be acceptable, i.e. regarded to be within the status? These questions arise since changes are allowed within the status of a Standard, but not changes that makes the Standard go from good to poor (Sundqvist, 2011) The Courts only mention the Standards in prepermission leaving uncertainties of their appliance. (Stenlund, 2011)

There is generally no different treatment in a water operation trial whether or not it concerns road projects or another project. It depends more on who the document writer is and how they write it. (X, 2011) However, there is an inherent difference with railway projects as they are perceived as being an environmentally friendly means of transport while road projects are not. (Sundqvist, 2011)

When looking at the large road projects like the Bypass Stockholm considerations to precautions in the project must be taken due to its tunnels, temporary harbours, etc. The audits are more thorough on larger projects since there are many stakeholders involved having conflicting interests (real estate owners, residents etc) and both water operations and environmental hazardous activities are likely to be involved. However there are not really any major differences in conditions between large and small projects. Each still requires supervision. The Government may stipulate conditions for water operations if grating a road project permission pursuant to chapter 17 of the Code; the Court cannot say no to the water operation then. (Sundqvist, 2011)

There is an increased use of control programmes within the conditions of permits that have been established by the STA. The local Swedish County Administrative Board (the Board) must approve the control programmes, if set by the STA, and their role is to check the contractor's completed job. When there are large complicated cases the composition of the Board is complicated. The Court then writes the control programmes, however when the Courts lack local knowledge they may need to change the programme conditions after gaining knowledge. The Court will listen to the operator's time schedule, make a fair assessment and then make any necessary changes. Added conditions in permits involving water levels in ground water diversion are also increasing. For instance, there is the condition of having biological fishery competence on site during operations. The latter being of no problem to the STA; if necessary the Court just considers the fact that the STA will bring in expert competence. It is however worse for the municipalities as they have a tighter budget to work with. (Stenlund, 2011) The Board must comply with the conditions handed down from the Court; the Board cannot exceed the frames set down and act stricter because then there could be unpredictable outcomes. Everyone must accept the Court's verdict. (X, 2011)

When looking at future prospects of projects there could be a problem with damage or subsidence on real estate and areas that are sensitive to subsidence. Detailed requirements in control programmes may already be included in the permit application. Even so, the best available technique has to be considered when the work commences, on the basis of what was known already.

In summary, the operator has the responsibility of the project and its operations. On-site contractors are sometimes ignorant about the environmental impact their actions may cause. Therefore it is important that all the information is conveyed all the way to "the dredge-men". Mistakes are often made out of ignorance so there is a need to improve communications about the relevant legislation: To explain why it exists, what it means (interpretation) and that

faults can lead to far-reaching environmental, economic or legal consequences. (Sundqvist, 2011) At the early planning stage it is both important and helpful to raise water operations issues when, for example, a road stretches here or there, over this or that watercourse, etc. The critical part is that there should be no contradiction between the water requirements and the actual road construction. An overall perspective concluded by one of the interviewees is that there is (i) Too much Cost-Benefit analysis in the decision-making process; (ii) Too much about economic issues; that everything must be measured in terms of money; (iii) For how can one measure the cost to human, animal, and plant species in monetary terms when a project is planned? (Stenlund, 2011)

## Summary of the STA Interviews

- The exception rule of chapter 11 section 12 of the Code is to be restrictively used; that is a common opinion. A perception is that the Boards are generally cooperative in relation to finding solutions with the operator (here: the STA) at consultation meetings. Operation goal and what's essential for completion of the operation are discussed and included in the EIS. Evidence from preliminary studies is also used. Several water operations are usually put into one Statement to lessen the working load.
- There is a dialogue between STA and the Board regarding SEI. Sometimes SEI is chosen from the start to save time. Sometimes it's a dilemma whom to include in the consultation process, especially when there are many private interests.
- There is a positive attitude to the Standards and see them as something important, but they will be difficult to reach by 2015. A lot to do. Shortcomings: Standards taken on poor grounds etc. The assessment of road projects is no real difference from other projects, more depending on the officer writing the permit application. With regard to conditions: there is an increased use of control programmes and levels in groundwater diversion. There is a need to improve communications, raise cooperation issues at the planning stage.

## 5.2 The Swedish County Administrative Boards<sup>28</sup>

### 5.2.1 The Mission of the Boards Stakeholders

The Swedish County Administrative Board (the Board) is a Government authority operating close to the citizens of every county. There are 21 counties in Sweden; the counties, in turn, are comprised of several municipalities. The Board is like an umbrella organisation that works as a component bringing the citizens and municipal authorities together and linking the Government, parliament and central authorities to each other. It is the County Governor of each county that holds the top leadership position. (SCAB, 2011)

There is a broad range of issues a County Administrative Board (the Board) has to cover. These include “implementing National objectives; co-ordinating the different interests of the County; promoting the development of the County; establishing Regional objectives; safeguarding the rule of law in every instance”. (SCAB, 2011)

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<sup>28</sup> Länsstyrelserna



When it comes to water operations, at the stage of consultation process and permit procedure, a Board's role is supervisory. However even before consultation a Board can advise on whether the water operation demands a permit or not. After the Court granting of a permit it is the Board's role to govern observance of the permit. The Board makes sure that the operator operates in compliance with the permit and its conditions. It is the Board's duty to take actions, should the practitioner be in any breach of the permit. The actual infringement of the operation within a water permit can then be changed, fined or stopped. (SCAB, 2009)

### **5.2.2 The Boards Stakeholder Interviews**

Six Boards were chosen for the Thesis' Research Questions. The choice of both rural and urban Boards, from North to South was made in order to get a solid, broad prospective. The two largest cities of Sweden with their counties are included, namely Stockholm (East) and Göteborg (West) (Västra Götaland County). Representatives from the counties of Jönköping, Dalarna, Värmland and Västerbotten (North) were the other contacts.

With regard to the exception from permit and notification in the Code (Chapter 11 Section 12), all Counties agreed that it should be used restrictively and only when it was obvious that no private or public interests would be harmed. A new situation arose in May 2007 when the duty to notify came in; the duty means that an operator shall notify before commencing a water operation. It clarified matters, gave guidance and limited the exception rule even more as henceforth it was required to disclose how and when a water operation was to take place. Before that Chapters 7 and/or 11 Section 12, 12 Section 6 were used. (Gustafsson, 2011) According to the interviewees in Stockholm exceptions have lessened since 2007 due to the 'new' ruling. (Vestin, 2011)

The Boards' experience is that the exception from permit and notification rule is rarely used and then usually only in minor operations. The Board informs the operator and explains the risks and tells what factors to take into consideration. (Ohlsson, 2011) Since the exception rule is often looked at in the County of Jönköping, the STA makes requests to the Board for information from previous cases to help them judge whether it is an exception case or not. (Skarstedt, 2011) There are a lot of mappings and inventories in Jönköping which creates a considerable amount of material whereas in the Stockholm area there are no full graded mappings. (Skarstedt, Vestin 2011) The Board informs the STA about any exception and what the consequences, indemnities, fines etc. could be. They then tell the operator that if, during supervision, no permit exists where there should be one or if complaints are submitted to them, a report will be filed. (Andersson, 2011)

The feasibility of making an application or notification must be assessed. (Andersson, 2011) When the nature's values are low the exception rule can be applied as it would not be reasonable to apply for a permit. (Skarstedt, 2011) When considering private interests they are usually quite easy to judge as they are more obvious – like noise, disturbances, etc. Public interests on the other hand are often harder to judge – like stocktaking, material and general judgements from the former Swedish Fisheries Agency (since 1 July 2011 a part of the Sea- and Water Authority) which are often lacking. Also, it is difficult to draw general conclusions for sediment removal and pollution. (Vestin, 2011)

Examples of when exceptions from permit application can be made are as follows. Changing a road culvert at the right time of the year, that is when the soil is dry and when the circumstances are amenable; pruning a dug ditch and pile work on a bridge, to a limited extent. (Gustafsson, Jonsson 2011) However groundwater decrease or land drainage are not exempted according to the Board. (Andersson, 2011) There was a tunnel case concerning the

E18 road in the County of Värmland where water pumping was necessary: the operator (the former Swedish Road Administration) did not want to apply for a permit, but the Board advised the operator to do so and eventually they did. (Andersson, 2011) In another case; that of groundwater lowering at the road Kolbäcksvägen (that will be the new E4 road) near the lake Nydalasjön, wells were checked and it was found that neither the wells or the lake would be affected by the water operation, so the STA drew the conclusion that no public or private interests would be harmed in that case (Ohlsson, 2011).

It is important that the Board gives their opinion in each case and takes a stance (Gustafsson, 2011) yet the attitude still prevails that caution needs to be taken. The Board must be clear in their stance. The Boards' experience is that when it comes to groundwater lowering, the exception rule is often used by the STA in the County of Västerbotten (Ohlsson, 2011). However all the Counties pointed out that ultimately the decision whether to apply or not for exemption rests with the operator.

The Boards should be actively involved in the Environmental Impact Statement (EIS) process so that as complete an application and position as possible is made. It is also important to get as many concerned parties as possible involved. (Gustafsson, 2011) Proper consultation procedures, not just informal meetings, should occur from an early stage (Vestin, 2011) In Jönköping as there is one specific officer handling road and railway projects that officer is able to draw on the expertise of the Environmental Department etc. Those colleagues can assist at meetings during the consultation procedure if deemed necessary.

Before the water operation consultations there are pre-studies and road inquiries to be made. (Skarstedt, 2011) The whole environmental impact is looked at during the water operation's consultation procedure and permit trial; even aspects that are not tried. (Vestin, 2011) Background material and information about the operation need to be gathered and written down and attached to the application. Examples are special areas where there are trout and freshwater pearl mussels. Water operations are often close to lakes or involve the dredging or extension of harbours. (Jonsson, Vestin 2011) There will obviously be difficulties in determining the content of an EIS beforehand as major changes may occur during the operation; things that could not be foreseen. (Andersson, 2011) Therefore information from similar previous cases can be helpful. (Vestin, 2011)

A Board will then discuss their point of view, based on the normally well-researched consultation material, with the operators who are normally receptive and cooperative. (Vestin, 2011) At an oral consultation meeting the operator shall write down the points of view put forth by the parties. The Board do not always have to establish a written consultation statement. However, if the parties do not meet in real life to hold consultation meetings, the Board shall make a written consultation statement. The drafts of the EIS are usually well done. (Ohlsson, 2011)

There is consensus among six of the interviewees that the concerned municipality is always involved in the consultation process from start. Thus the STA and operator (if not the STA)<sup>29</sup> involve the concerned Municipality and in road projects it is often important that they are involved. (Ohlsson, 2011) Both small and large Municipalities generally prioritise their involvement in the consultation process. (Vestin, 2011)

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<sup>29</sup> The STA are mainly the operator when it comes to larger projects; the former Swedish Road Administration engaged few consultants while the Swedish Railway Administration used consultants frequently. Municipalities, associations, private persons have less of these cases nowadays. (Vestin, 2011)

The Environmental and Health Departments normally partake in consultation processes involving water operations in road projects. (Andersson, Jonsson, and Vestin 2011) The City Planning Office is engaged in larger projects. (Andersson, 2011) When a smaller Municipality is concerned they send a representative, usually the head of the Environmental Department, to participate in consultation meetings. However, the largest Municipalities in the county of Värmland (Karlstad, Arvika and Kristinehamn) send two representatives to the consultation meetings. When a Municipality itself runs a project more than two representatives attend the meetings. (Andersson, 2011)

It is not often concluded that an operation will be of significant environmental impact. (Jonsson, Ohlsson, Skarstedt, Vestin 2011) However when the operator is to work with bridges and road culverts in the areas with high nature values the environmental impact is considered significant. The decision must be made on a case by case basis. Any decision must consider the characteristics of the project, the appendices of the regulation (1998:905), Natura 2000, State interests, data, expert knowledge, present circumstances, and any older permits (present values, for example, for bridge construction, new data and circumstances may differ). The matter is discussed in a large group. (Jonsson, Skarstedt 2011) In order to save time the operator might decide that there is significant environmental impact from the start. Conflicting interests can arise in densely populated areas such as Stockholm as there are many interest groups (e.g. associations, authorities, and operator etc). (Vestin, 2011)

There can be cases, mainly in larger projects, where significant environmental impact will occur and so consultation with an extended connection is decided upon. (Gustafsson, Vestin 2011) The Geological Survey of Sweden (SGU) investigates if there will be Significant Environmental Impact in areas sensitive to landslide. (Skarstedt, 2011)

In Västerbotten, during the last ten years significant environmental impact has been found in 4 out of 20 railway projects and in 2 out of 30 road projects. It was commented by one officer that, for instance, no consultation procedure for water operations had yet been held for the Ring Road around Umeå but that there would definitely be a permit application made when the new bridge over the Ume River is planned although, at this moment in time, it is difficult to gauge whether it will cause a significant environmental impact. (Ohlsson, 2011) Another example of possible environmental impact is potential changes in ground stability which often occurs in the Västra Götaland region. (Gustafsson, 2011) Conflicts of interest arise at times. For instance, in the Fristad-lane project (Värmland County) the operator had started land drainage (digging ditches, etc.) even before hearing from the Board. The landowners, however, had been contacted in advance saying that they were happy for them to go ahead with the water operation. The urgency facing the operator was that they had only two weeks to complete the land drainage otherwise they would lose money and thus the reason why they ignored any consultation (Andersson, 2011)

In any road project four or five officers would work together on it, depending on the number of current protection interests. Different Departments on the Board are allocated work on the project depending on their particular expertise and the protection interests needed to be covered. An operator often thinks that these Departments work interactively but that is not the case. Many of officers at Svevia, the Swedish Transport Administration and their consultants are often not that informed. Information transfer depends on the particular officer; some are very communicative, others are not. Even though a project as a whole has not been classified as having significant environmental impact parts of it may; for example, water operations may have significant environmental impact. Some interviewees do not, therefore, find the present process satisfactorily. (Andersson, 2011)

There are not many examples of the Environmental Quality Standards (the Standards) in permit applications. The Boards are always trying to raise the Standards at the consultation process for it is important in the EIS to show why such-and-such a Standard has been chosen. It must also be determined (by cause and effect) whether a road project will have major environmental impact. If so, it has to be assessed how such negative environmental stress can be decreased. (Jonsson, Ohlsson, Skarstedt 2011) Drawbacks of the Standards include their complexity as well as the lack of agreement in the figures for biological values, environmental toxin types and levels and contaminated soil types and levels. (Andersson, Jonsson 2011) More information needs to be gathered so that more weight can be given to the Standards. (Vestin, 2011)

When considering the Standards for water, the Board makes the operator demonstrate that its operations will not diminish the environmental status of the site, i.e. the Board ensures that the operator is aware of the risks involved and showing them the provisions of the Code and the Regulation (2004:660). (Andersson, Ohlsson, 2011) The Standards applicable vary depending on what kind of water operation it is. When it comes to for example the Standards for fish- and mussel waters they only apply within certain specific water bodies. (Vestin, 2011)

There is a general opinion amongst the Boards that the Courts do not take the Environmental Quality Standards (the Standards) into consideration as much as the Board would wish. Therefore there is more pressure on the operator to consider the Standards and clarify them, themselves, to their own satisfaction; since the Standards are to be implemented pursuant to the EU Directive 2000/60/EC and the Swedish legislation thereof. The Standards were included in a control programme (established by the operator and the Board) in a mine project in Filipstad (Värmland County). (Andersson, 2011)

Further, more information needs to be given to the Courts. For instance, they need to be more informed about the EU Water Framework Directive. (Gustafsson, Jonsson, Skarstedt, Vestin 2011) There was an initiative on June 16 2011 when the Board went to Court (in Vänersborg) and held an information session. (Gustafsson, 2011) The Standards are only target Standards, i.e. guideline values. At the moment only threshold limit value Standards for 33 species exist. There are also imminent problems with how to handle the present validity of old permits, that is, those granted before the Environmental Code came into effect, (see Chapter 24 of the Code, concerning the validity of permits). (Gustafsson, 2011)

It does not generally matter whether a water operation application and permit procedure is connected to a road project or not. There can however be some differences, especially with a larger operator (such as the STA, Vattenfall) or when experienced consultants who have worked with water operations and road projects are involved. They will submit well-selected, well-formulated, detailed material. At an early stage, opinions from the Board on, for example, local issues from the pre-study and from the road inquiry regarding the choice of direction, can be helpful for the water operations later. (Gustafsson, Skarstedt 2011) There is an opportunity for the Board to influence, for example, the size of the road culverts, the time of the year it is done, etc. (Ohlsson, 2011) Further, when, at an early stage, the Board sees, at a Plan and Construction Act inquiry, that there will be water operations involved they will note and inform the operator about it. This makes the process easier. (Vestin, 2011)

There can be several years between the procedures of a road inquiry and a permit application for water operations. (Ohlsson, Skarstedt, Vestin 2011) So there is a need to be aware that with time delays the STA's cost for a project may increase with inflation more than the original budget they were allocated. (Andersson, 2011) The time frame for the STA is often very tight yet it takes time to get a permit. The STA are still however time-optimistic when it comes to

budgets and notifications. (Ohlsson, 2011)

Another difference is that when one looks at water operations included in road projects the public benefits of transportation are greater than in other water operations projects. (Jonsson, 2011)

Demand for the establishment of control programmes is more and more prevalent. The requirements concerning the content of control programmes vary, however. The conditions are sometimes detailed, at other times quite general. From an historical point of view the focus was on a bridge's technical design while, at present, that is less important. Today, the aspects that are important to the water operation include bridge abutments, damming effects, widths and heights. (Skarstedt, 2011) Control programmes are a good tool and are helpful; they steer the operation and provide for supervision meetings and contacts are established. It is not unusual for the operator to suggest a control programme be drawn up. (Skarstedt, Vestin 2011) One representative from one Board did not believe in control programmes as such; he thought self-inspection was a better solution. (Jonsson, 2011)

An example of a control programme which an operator draws up and which the Board approves was in the railway project the Bothnia lane in Västerbotten where there were Natura 2000 wetlands and bird areas. There were, in total, five permit cases. A copy of any control programme has to be handed in to the Board by a given date before the operation starts. Restrictions are given, for example, when you are not allowed to dredge (during the play and spawning periods). Compensation measures are also set. That is areas have to be recreated as compensation. Matters concerning Chapter 9 and 11 of the Code, i.e. sewerage (a water operation) and discharge of sewage (an environmental hazardous activity) can be included in the same trial at Court. (Ohlsson, 2011)

District Court Judges and technical personnel have gained extensive knowledge and so have placed more emphasis on natural values, nature preservation and public interests during the last few years. The control programmes facilitate the Board in its supervisory role, showing what rules the operator must comply with. (Gustafsson, 2011)

The Court follows the Board's statement (at Court) almost a 100 percent, but the Court is no stricter than the Board which rather favours the operator. It is better that the Court usually now follows the Board's advice rather than that of operator. (Andersson, 2011) Yet, in the case of snow cannons, when the Board wanted to include noise in the verdict it was not included in the water operations. (Jonsson, 2011)

A recent development is that other types of disturbances being included in water operations. For example, noise, discharge of waste water and the acceptable limits thereof, conditions for sedimentation, recipient water quality, etc. did not use to be included (Vestin, 2011) There are also conditions at increased muddying of the water like limited time to get the job done. (Jonsson, 2011)

With regards to supervision: there are many layers of supervision right down to the very subcontractor who is going to carry out the water operation. As a consequence due bad communications between, ultimately, the main contractor and subcontractor, the subcontractor often does not know what a permit involves or which conditions are valid. (Skarstedt, 2011) In turn water operations are a low priority for the Board(s). This is reflected in the fact that there are fewer resources for water operations supervision than for other operations. (Jonsson, 2011)

## Summary of the Boards Interviews

- All representatives of the Boards consider the exception rule of chapter 11 section 12 of the Code to be used restrictively. It is only to be applied for water operations when obvious that no private or public interests would be harmed. The Board should be actively involved in the process so that the EIS becomes as complete as possible. Proper consultation process meetings should be held. The Boards put forth their point of view and find the operator(s) normally to be receptive. It is not often found that an operation will have a SEI; this has to establish on a case by case basis. Sometimes it is however decided to be from start just to save time, implying that a wider circle of stakeholders are included.
- There are not many of examples of the Standards in permit applications. The Board is always trying to raise the Standards at the consultation process. Drawbacks: complexity and lack of agreement in the figures. There needs to be more information to the Court about the Standards and the Directive of 2000/60/EC.
- There is generally no difference between a water operation in a road project or not. However when large operators or experienced consultants are involved in a project better and more resources are at hand giving the advantage of a well executed application. It can take several years between the procedures of a road inquiry and permit application. Roads are beneficial for public transport; otherwise railways are always considered to be more environmentally friendly.
- Control programmes are more and more common. They are a helpful tool and facilitate the Board in its supervisory role. Other types of disturbances are conditioned in water operations, for example noise and sedimentation. The Court is not stricter than the Board in its judgements. The Court and technical staff have more environmental knowledge nowadays; that is reflected in the nature considerations they take. The many layers of supervision requires good communication, and better than present is desirable. Water operations have a low priority at the Boards.

### 5.3 The Swedish Water Authorities<sup>30</sup>

#### 5.3.1 The Mission of the SWA Stakeholders

Since March 2004 there have been five water districts covering the whole of Sweden with a governing authority for each district.<sup>31</sup> This is a part of the way in which Sweden is implementing the EU Water Framework Directive (WFD) of 2000. (SWA, 2011) A Board in each water district functions as a water authority and is accountable for “dealing with the quality of the water environment within that district.” (SCAB, 2009) This has meant a transition from viewing, in water terms, the legal boundaries of a municipality and its county to a more holistic view of the natural borders of water and water systems. (SWA, 2011)

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<sup>30</sup> Vattenmyndigheterna

<sup>31</sup> The water authorities are situated at the CABs in: Norrbotten – The Gulf of Bothnia Water District, Västernorrland – The Bothnia River Basin District, Västmanland – The North Baltic Sea Water District, Kalmar – The South Baltic Sea Water District and Västra Götaland – The Western Sea Water District (SCAB, 2009)

Together, the Swedish Water Authorities (SWAs) have a comprehensive responsibility in implementing the WFD in Sweden. (SCAB, 2009)

Water administration is carried out in cycles of six years with some repetitive elements. The second cycle is operating at present and will continue to the end of 2015. By 2015, all water bodies in Sweden should have at least “good water status”. There are exceptions and these will be granted by 2027 by the latest. (SWA, 2011)

### **5.3.2 The SWA Stakeholder Interview**

The SWA Stakeholder interviewed worked at the Water Authority (the Authority) in the Bothnia River Basin District at the County Administrative Board of Västmanland.

His view was that greater emphasis should be placed on Environmental Quality Standards (the Standards). Although the Standards are complicated to understand and interpret, the effect on the Standards expected in a project, need to be clearer in a permit application. However, the Standards do not have to be met fully until the end of 2015, and there are also exemptions until 2021 or 2027 (Chapter 4, Section 9, Paragraph 2 Ordinance (2004:660)). There are Programmes of Measures in every River Basin District including road projects. Measures for Biotopes do not yet exist, since it is only the Parliament and Government who can accelerate the legal implementation of such measures. The delay in legislation may be because there are conflicts of interest including those concerning private properties, which is a political sensitive issue. Dedicated protection zones along rivers and lakes need to be implemented, although the extent of the zone around a given watercourse needs to be agreed upon. The overall important issue is the ecosystem perspective, meaning that ecological functions in the water and the biological exchange with the close surroundings ought to be maintained. (Sorby, 2011)

The River Basin authorities agree that if a water body of water has good status today; it should be in good status 2015. At present, 50% of the Swedish water bodies, mainly in the North, have good status whereas some waters, for example in Scania, fall below acceptable standards. It is highly doubtful that all Swedish water bodies will attain good status by 2015. More measures are necessary to promote good water status, but the interviewee does not believe in market based instruments to achieve these goals. Market based instruments needs such a big change in Swedish administration, that they are not likely to make any change in such a short period. (Sorby, 2011)

There are problems with supervision, inspection and control, mainly by local Municipalities. Municipalities are happy that a road is built in their area, and both the municipalities and the County Administrative Boards lack time, money and motivation to correctly control the work. Similarly, after a road project completion, follow-ups by the County Administrative Boards need to be improved. The Authorities Programmes of Measures has the means to influence, for example, discharges and emissions; road culvert design, incentives, directions, etc. but they have to be enforced, according to the Environmental Code, by the municipalities and County Administrative Boards towards the operators. For instance, several sewage treatment plants are inadequate under the Environmental Quality Standards and more updating have to be done. Therefore, there should be a legal management steering systems for all sources affecting the water quality to be followed by the plant operators as an incentive for improvement. (Sorby, 2011)

Operation control programmes, as a condition for permits, can support the implementation of the Standards. Control programmes that, for example, ensure correct storm water regulation, correct water flows in particular environments and general environmental safeguards that

might include salting around ridges for protection of chemical status in ground water. Handling specific contaminating substances such as phosphorus is however complex. Environmental requirements should always be included in the procurement of prospective contractors; for example, in dredging, barrier construction, etc. (as they do in Stockholm but not in Scania). (Sorby, 2011)

In Sweden, there are co-operation existing between authorities with regards to the environment. There are common policy documents, especially those concerning supervision, inspection and control for example activity programmes and memorandums. Self inspection (when the operator controls its own activities) works quite well in Sweden. In the future, similar control programmes, based on the requirements in the EU Water Framework Directive, will increase. Even individuals can now press charges at the EU Court of Justice regarding the status of water quality. (Sorby, 2011)

The Swedish Environmental Code has replaced the old Water Act, but transition rules between the two systems are still in force in some areas. These have proved to be a much of a problem in Court cases, leading to a conservative interpretation of environmental improvements. However, due to the EU Water Framework Directive, these problems are expected to increase as 2015 draws near. There is a perception that the Swedish (Land- and) Environmental Court of Appeal has been equivocal and unclear in its attitude towards the Standards. So far, the Court of Appeal has not handled the Standards in a proactive way to safeguard the water quality. They have avoided handling certain questions and instead write them off. They should interpret what the River Basin Authorities have decided and enforce the water quality perspective. Otherwise there is a risk for much stricter, unmanageable legislation. (Sorby, 2011)

## 5.4 The Legal, Financial and Administrative Services Agency<sup>32</sup>

### 5.4.1 The Mission of the LFASA Stakeholder

The Legal, Financial and Administrative Services Agency (the Agency) is a Swedish public authority dating all the way back to 1539 and Gustav Vasa. (LFASA, 12 July 2011) At present the Agency deals with “the authorisation of interpreters and translators, travel guarantees, exemptions from the testamentary provisions governing foundations, the appointment of those entitled to solemnize marriages, registration of religious denominations and also looking after the Swedish Inheritance Fund's interest and other areas of public interest.” (LFASA, 12 July 2011)

The Agency also represent the state in specific cases at courts of law, for example the environmental and common interests at the Land and Environmental Courts. Sanctioned by chapter five section 5 the Swedish Environmental Code (the Code), section 18 of the Measure Programmes for 2009-2015 of each district stipulates that the Agency is commissioned to produce material and strategies with the purpose to attend to barriers for fish passage, regulations, water management issues and other physical interferences that affect water bodies. The measures are to be taken in order for the water bodies to reach or at least not jeopardise reaching a “good ecological status” or “good ecological potential”. (LFASA, 13 July 2011) This task, section 18 should be done in collaboration with the Swedish Environmental Protection Agency, the Swedish Board of Fisheries (from 1<sup>st</sup> July 2011, the Swedish Sea and Water Authority) and the Swedish County Administrative Boards. (LFASA, 13 July 2011)

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<sup>32</sup> Kammarkollegiet



On a yearly basis, the Agency shall report annually to the Swedish Water Authorities (SWA) on how their mission is carried out, progress etc. This reporting began in March 2011 and its development will be in cooperation with the SWA. The first report included a brief explanation of the Code's systematic and legal tools, and list of relevant court verdicts concerning environmental quality norms for water. (Leine, 2011)

#### **5.4.2 The LFASA Stakeholder Interview**

Two Senior Litigation Officers working in Environmental Law at the Legal, Financial Administrative Services Agency (LFASA) in Stockholm have been interviewed for this part.

The Environmental Quality Standards (the Standards) are considered important when, for example, looking at fish migration barriers, increased muddying of the water and maintaining and improving road culverts (Hellquist & Leine, 2011)

The Land and Environmental Courts (the Courts) have not applied the Standards despite that there is a prohibition of deterioration of a Standard's status. There have been no demands to the operator for inquiring statuses from the Land and Environmental Court of Appeal yet they still judge that Standards are necessary. However, there is one case pending at the Court of Appeal considering the Standards application considering a new hydropower plant (Ladvattenån). Enquiries as to how an operation will influence the future environmental status should be asked. Surely the aim is to reach good water status in all Swedish waters by 2015. For instance, a consultation process about the work at Mälaren Lake has been carried out. It shows that there will be some environmental impact, so follow-ups of water operations need to be done. (Hellquist & Leine, 2011)

To reach the good water status goal by 2015 priorities must be made though this is difficult in permit cases; there are so many aspects to look at. Some logical order in permit conditions and supervision is needed. For instance stating which areas need to be protected and determining how the lawmaker can prioritise these matters. The Board's estimation of need for supervision and prioritization by the water authorities are legally important, to ensure that the Standards will be observed by the operator throughout the project. Such issues must be brought to the fore and reassessed. (Hellquist & Leine, 2011)

The STA are positive in their attitude towards the Standards and their consequential physical impact. However there are issues with the Swedish Aviation Consulting Agency (SACA) regarding Arlanda since there was chemical spillage in the water; the SACA argues that the threshold value Standards can be reached through the existing sewage treatment plant and an additional plant planned to be built.<sup>33</sup> When it comes to storm water management the responsibility rests with each municipality: it must examine and give permission separately to every water purification plant. (Hellquist & Leine, 2011)

The perception is that the Courts are very industrial plant- or construction-focused. The control programmes being included more frequently year by year are however a positive development. Such control programmes focus on physical barriers (which are easy to identify) and on oxidation of water. There are big and significant problems with old permits where regulations and circumstances have changed. Further, present Swedish water legislation is ancient and focuses on ownership and proprietorship and needs to be up-dated to include

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<sup>33</sup> The statements of the SACA are from 29 April 2011. Others, like the Swedish Environmental Protection Agency are however dissatisfied with the SACA's investigation of the treatment(s) and the Standards and the accounts therefore (the SEPA, 5 October 2011).

environmental concerns. (Hellquist & Leine, 2011) The interviewees refer to the SEPA PM of 19 April 2011, which has been established in consultation with the LFASA. In the SEPA PM it is put forth that the legal changes needed are to ensure that the operators without permit must have it in order to conduct the operation. Further, existing permits and conditions granted before the Code entered into force shall be reviewed and adjusted to present legislation; in doing so considering the Best Available Technique.

## 5.5 Swedish Municipalities

### 5.5.1 The Mission of the Municipalities Stakeholders

There are a total of 290 municipalities in Sweden. They vary greatly in geographical size and population; from the crowded Capital of Stockholm to rural Bjurholm in the North. A municipality plays several roles: That of an employer; a service provider (care, education, infrastructure and social services) and a supervisory authority (the measurement of air and water pollution etc). A municipality is also, legally or contractually, responsible for planning and building issues including the construction and maintenance of roads. (SALAR, 2011)

### 5.5.2 The Municipalities Stakeholder Interview

The one interviewee, representing the Stockholm City Municipality, is an external consultant working as a project leader at the Land Development Office.

Experience from case law shows that the rules in the Environmental Code (Chapter 11 section 12) are to be interpreted restrictively. The rules, the interviewee believes, are very seldom applicable. The municipality's advisory role is to give as balanced a picture as possible of the possible and probable risks. The data material that they base their decisions on can vary over time. This means that the judgements and recommendations can also vary over time. This, in turn, means that the rule is rarely applied. (Y, 2011)

Whether or not the rule is applicable depends generally on the type, size and location of the project and whether there are other parts of the project that began as a permit trial in the Land- and Environmental Court (the Court). If it is obvious that neither public nor private interests will be harmed through the water operation's influence on the water conditions or that no other part of the project started off as a permit trial, the Court will recommend negotiations with the concerned County Administrative Board (the Board) if the operator chooses this route. (Y, 2011)

The interviewee believes a Municipality can heavily influence the Environmental Impact Statement (EIS) if the operator includes them in the consultation process from the start. The interviewee, i.e. as municipal representative participates in consultation processes from the start if they judge the project will have significant environmental impact or if it contains any operation listed in the Annex of Regulation (1998:905). With larger cases it can be helpful to hold several consultation meetings with an extended connection. In cases where the operator is more ambitious from the start of the consultation, the Board has less opportunity to influence and rule on the design of the EIS. Influence depends more on who the operators and their consultants are than on the size of the project.(Y, 2011)

Regulations of our water operations are governed by fixed Environmental Quality Standards (the Standards) for surface water. There are active programmes connected with water administration that aim to reach good surface water status. In a permit trial the Boards often want to know how the planned operation relates to the Standards; therefore such a Statement

is regularly included in the EIS. In the interviewee's opinion this should not be an automatic requirement in every single permit trial and project so that the Standards can be fulfilled. The activity programmes for the Standards should take a long-term approach. It would help if there was agreement in the interpretation of the Standards amongst authorities and operators, but since the Court has not dealt with the Standards' issue yet the other parties cannot agree. An example regarding good water status is comparing what allowable level of substances can be released from dredging in an area to that which is released in a particular case. (Y, 2011)

The interviewee did not know whether there would be any different treatment of the water operation permit procedure if it were connected to a road project or not. She knows of no reason why it would be different. (Y, 2011)

The conditions in water operation permits of establishing control programmes and self inspection are increasing during the last years from the Court. (Y, 2011)

## 4.6 The Swedish Environmental Protection Agency<sup>34</sup>

### 5.6.1 The Mission of the SEPA Stakeholder

The Swedish Environmental Protection Agency (the Agency) is a public agency with an overall observation of the environmental status and policy in Sweden empowered by the Government. They coordinate, monitor and evaluate the job done to reach the Swedish environmental targets; many agencies are engaged in this and there is an ongoing collaboration with them. The SEPA can interact and give statements in specific cases concerning the environment like planned projects with water operations included and supervisory guidance; however this has changed somewhat since 1 July 2011 (see the interview below).<sup>35</sup> (SEPA, 2011)

The vision of the Agency is enabling "a good living environment for humans and all other living things, now and for future generations". (SEPA, 2011) It is in the pursuit of trying to solve the main environmental problems and preventing serious environmental and health concerns abroad. The work is carried out through collocation of knowledge and documentation, and providing input at national, EU and international level with regard to environmental policy implementation. (SEPA, 2011)

Commissions from, collaboration and dialogue with municipalities, county administrative boards, organisations, other agencies, companies and visitors to national parks are a part of SEPA's daily mission. (SEPA, 2011)

### 5.6.2 The SEPA Stakeholder Interview

The officer interviewed at the Swedish Environmental Protection Agency (SEPA) works in the Policy Implementation Department at the SEPA Head Office in Stockholm.

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<sup>34</sup> Naturvårdsverket

<sup>35</sup> From 1<sup>st</sup> July 2011 some of SSNC's tasks are moved to the new Swedish Agency for Marine and Water Management, since this change is so recent it will not affect this thesis.

According to the interviewee SEPA rarely participates in consultation meetings. They say it is always the operator's responsibility to assess the Environmental Code (the Code) (Chapter 11 section 12) and that the default rule is that a permit is required. The interviewee believes there should be closer discussions with the County Administrative Board that is the consultation and supervisory authority and that has knowledge about local conditions. (Peters, 2011)

When considering the permit application of water operations in general SEPA's influence varies a lot; from having a large impact to none at all. The tendency is rather towards less impact. The level of influence depends on the operator, but it could also depend on the selection of cases SEPA has prioritised. (Peters, 2011)

SEPA will be participating less in matters of a consultation party after 1 July 2011 as the main responsibility for water operations has been taken over by the Swedish Agency for Marine and Water Management. Exceptions could be in cases when water operations are combined with environmentally hazardous activities. So, generally, there will be fewer Environmental Code cases that the SEPA will be involved in than previously, but we will hopefully run those cases with greater diligence. (Peters, 2011)

Regarding the permit application: the degree of influence that the Environmental Quality Standards for water (the Standards) should have cannot be answered in detail here. But in general; the Environmental Impact Statement should contain information about current Standards, the quality elements that form the basis of those Standards, risks for negative impact on classified and unclassified quality elements, and what measures are needed to meet the Standards. Which decisions will be made depend how the Courts act with respect to different types of Standards and the role of the Programme of Measures, in combination with "normal" rules of the Environmental Code. (Peters, 2011)

There is an important difference between a water operation trial that involves a road project and one that does not. For water operations other than then those necessary for a road project alternative locations have to be described and assessed in the permitting process. But when the route for a road project already has been granted, this route cannot be changed by the Environmental Court when processing a specific case concerning water operations, like a bridge construction. If the road is to cross a watercourse sufficient safety precautions/measures on site have to be prescribed instead. But we at SEPA have seldom participated in water operations in road projects. (Peters, 2011)

As SEPA has not prioritised water operation cases concerning roads, they have no opinion as to if or how the Land and Environmental Courts have developed precedents for these cases. SEPA knows of no permits containing conditions due to the Standards. (Peters, 2011)

## 5.7 The Swedish National Board of Housing, Building and Planning<sup>36</sup>

### 5.7.1 The Mission of the Boverket Stakeholder

The Swedish National Board of Housing, Building and Planning (Boverket) is "the central Government authority for town and country planning, management of land and water resources, building and housing." (Boverket, 2010) Boverket is an observer of the Planning and Building Act and related legislation; the board looks at the legislations' function and makes suggestions to changes thereof when imperative. In order to safe guard an effective

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<sup>36</sup> Boverket

legal implementation, Boverket informs the people concerned with spatial planning, housing, building and inspection work. (Boverket, 2010)

The relevant area of activity for this thesis is the planning and urban development part. Boverket is accountable for certifying that “ecological, economic, cultural and social aspects” are taken into consideration when planning. (Boverket, 2010) The centre of attention in planning is shifting towards a regional as well as sustainable urban development through the initiation of new planning methods. (Boverket, 2010)

### **5.7.2 The Boverket Stakeholder Interview**

The Swedish National Board of Housing, Building and Planning (Boverket) are a discussion part in National plans that are of State interest. With regards to transportation: permission trials by the Government are documented in Chapter 17, Section 1: Highways, p.2.; Public Navigation Channels, p.4., of the Environmental Code (the Code).

Boverket operates from ‘A System-Thinking’ perspective. When considering permit questions Boverket looks at the *what* and not the *how*. They work on the planning stage. For example, they may refer to Chapter 3 of the Code which defines the basic provisions required for good management of land and water areas. (Larsson, 2011)

In the context of the Environmental Impact Statement – Boverket has a coordinative role in defending State interests and speak as a Body when considering proposed legislation. Boverket might contact the Swedish Transport Administration, the Swedish Environmental Protection Agency, the Geological Survey of Sweden and the Swedish Aviation Agency etc depending on which State interest(s) are at hand. Boverket’s general stance is to: plan and construct roads to enable a transition to increased public transport; promote accessibility in cities; build more and develop bike- and pedestrian roadways. (Larsson, 2011)

The County Administrative Board (the Board) examines a Municipality’s detailed plans. If a plan is rejected by the Board the Municipality might appeal to the Government. The Government, in turn, usually hears Boverket before they make any decision. An appeal could involve Environmental Quality Standards for water quality or health issues due to noise. (Larsson, 2011)

Apparent focus since the Code was established in 1998 is, according to the interviewee, as follows:

- Climate issues; climate change due to CO<sub>2</sub>, climate adjustment issues, minimising harm, handling risks, “green roofs”, multifunctional surfaces, etc.
- Preventative aspects; Location of buildings/settlement: the design, height placement of buildings and settlements together with landscaping (e.g. bike lanes and gardens); the construction of buildings (material and design) (Larsson, 2011)

The relationship between the Planning and Construction Act and the Code matters such as:

- There must be an assessment by the municipality of the need for building and development (including houses and roads), and the concern for environmental aspects.
- The establishment of detail plans; the Code Chapter 3, 4, 5, 6 including environmental aspects like shore and beach issues and near-shore areas.
  - The mechanism of delay through storm water reservoirs.
  - Regional and national interests are nowadays for the municipality to take into account as well as local interests. (Larsson, 2011)

## 5.8 The Geological Survey of Sweden<sup>37</sup>

### 5.8.1 The Mission of the SGU Stakeholder

The Geological Survey of Sweden (SGU) is an expert authority for matters concerning rock, soil and groundwater in Sweden. Since the foundation of SGU in 1858 the mission has been to investigate, document, inform about the Swedish geology. (SGU, 2011)

Geological information is a part of the material needed in society planning when taking decisions. Basic geological information is collected and expert judgements are provided to relevant Stakeholders for the case, such as municipalities, county administrative boards, other authorities and companies. The information is then used for physical planning, construction works, fresh water provision, environmental issues and as a material for decisions according to various regulations. (SGU, 2011)

There are 16 national environmental objectives, i.e. quality targets set by the Swedish parliament. These are:

- “1. Reduced Climate Impact
2. Clean Air
3. Natural Acidification Only
4. A Non-Toxic Environment
5. A Protective Ozone Layer
6. A Safe Radiation Environment
7. Zero Eutrophication
8. Flourishing Lakes and Streams
9. Good-Quality Groundwater
10. A Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos
11. Thriving Wetlands

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<sup>37</sup> Sveriges Geologiska Undersökning

12. Sustainable Forests
13. A Varied Agricultural Landscape
14. A Magnificent Mountain Landscape
15. A Good Built Environment
16. A Rich Diversity of Plant and Animal Life” (The Environmental Objectives Secretariat, 2011)

The SGU has the responsibility of the target “ground water of good quality” that also comprises a decreased use of natural gravel. (SGU, 2011) The interim targets of this objective are: “Protection of water-bearing geological formations, Groundwater levels and Good-quality drinking water”. (The Environmental Objectives Secretariat, 2011) Other targets (of the 16) than water quality are naturally dealt with when concerning geological activities. (SGU, 2011)

### **5.8.2 The SGU Stakeholder Interview**

The interviewee from the Geological Survey of Sweden (SGU) was a geologist who worked as an Officer at their Head Office in Uppsala.

The SGU assist the operator in making accurate assessments regarding the Exception (The Environmental Code, Chapter 1, Section 12) through factual matters in a purely geologic sense. It is done through gathering geological facts, current data and analysis and then presenting the findings.

During the consultation process all findings and all interests have to be considered in a timely and balanced manner. There are limits to the degree of engagement in water operation cases due to the limited number of available staff at SGU (265 employees in all of Sweden) and the fact that there are twenty-one counties, six Land- and Environmental Courts, and the Land- and Environmental Court of Appeal competing for help.

The role of the SGU at Court is to present an Expert Statement containing geological facts and current data from geological surveys.

## **5.9 The Swedish Society for Nature Conservation<sup>38</sup>**

### **5.9.1 The Mission of the SSNC Stakeholder**

The Swedish Society for Nature Conservation (the Society) is an environmental organisation working with the distribution of knowledge, surveying environmental threats, designing solutions, lobbying politicians and public authorities. They were initiators of the world known eco labelling, Bra Miljöval (Good Environmental Choice). Their main concern is the climate issues, the oceans and seas, forests, environmental toxins and agriculture. (SSNC, 2011)

The SSNC is governed by its members; each member has a say in a local branch. The work and mission is managed by a national office that coordinates and provides services. It is the delegates at the assembly that agree on the guidelines for the national work and chose the members of the governing board. (SSNC, 2011)

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<sup>38</sup> Naturskyddsföreningen

According to the Swedish Environmental Code (the Code), the Society has a right of speech at court to guard the interests of humans, nature and environment. (SSNC, 2011)

## **5.9.2 The SSNC Stakeholder Interview**

The person interviewed at the Swedish Society for Nature Conservation (SSNC) was a lawyer who specialized in the environmental field and works daily with nature conservation issues.

Considering guidance for application of the exception rule (Chapter 11, section 12 of the Code) the Society is able to point out what risks exist for flora and fauna. Points that need to be addressed are the Cost- Benefit Analyses (Chapter 11, Section 6); Nature Protection (Chapter 7, Section 28) and Natura 2000 Areas (Chapter 11, section 27) of the Code. The migration patterns of fish also need to be checked and protected. For further reading, see the Sölvesborg- verdict of 2011 from Växjö Land- and Environmental Court.

The Environmental Quality Standards (the Standards) are something to be drawn on; i.e. they are important. For instance, there is the prohibition against deterioration for water courses, i.e. change to poorer quality. In a case from the EU Court it stated that Member States are to take measures even during the transition period (i.e. from the present to 2015); see the EU case in chapter 4 this thesis. The Standards (Chapter 5 of the Code) should stand in relation to Chapter 2 of the Code. The general respect and caution rules and the best available techniques are included in Chapter 2, Section 3.

It is the experience of the interviewee, which he shares with the Agency, that it is difficult to get the Land- and Environmental Courts to take the Standards seriously

When looking at the permit granting in Court, the interviewee's conclusion is that a Court seldom stops road projects due to water operations. His perception is that water legislation is dealt with negligently in Sweden. All operations are not assessed; old verdicts and out of date decisions are not brought to their attention anew. The number of species in lakes and watercourses are decreasing so biological diversity is suffering. There are water dams, etc. that have been constructed without a permit. The Society can urge "lack of right" at Court against the operator in such cases.

## **5.10 Neighbours**

Neighbours (Ns) are a group of Stakeholder that is multifaceted. They may consist urban or rural wise of private persons living next to or nearby a, in this case road project with water operation, in urban areas of businesses (factory, shop or real estate) and/or in rural areas of farmers and their lands. Their interests may be quite different from each other, although all of them are guarding their needs and wants according to interests. All these neighbour subjects will be covered in this section under mission and view.

### **5.10.1 The Mission of the Ns Stakeholders**

#### **5.10.1.1 Private persons**

Private persons who live next to or nearby a location where a road work is to take place involving water operations most certainly have an opinion about the carrying through. The health and safety aspects are most likely to arise.



### **5.10.1.2 Business**

Companies who run businesses like factories, shops and shopping malls, restaurants and service providers or own real estate are included in this section. Their needs and wants are diversified and depending on the activity. They do however have in common the interest in others' activities such as road projects and water operations and how these activities will affect them. It could be either and a negative or positive impact.

### **5.10.1.3 Farmers**

Since the farmers cultivate the land and/or breed cattle on it they are highly concerned with its qualities. When road project involving water operations are imminent there are certainly issues of how this would influence the land, grass, grain, water and animals on the farm.

## **5.10.2 The Ns Stakeholder Interviews**

The views of the neighbour Stakeholders have to be understood in the light of the Court cases due to the author's time constraint in composing this thesis.

## **4.11 The Land and Environmental Courts<sup>39</sup>**

### **5.11.1 The Mission of the LEC Stakeholders**

The Land and Environmental Courts<sup>40</sup> are special courts that deal with cases regarding, for example "environmental and water issues property registration and planning and building matters." (LEC, 2011) These courts replaced the Environmental Courts in 2 May 2011. Since there are no cases yet from the new courts, the former courts' verdicts and hence their work are looked at in this paper. (LEC, 2011) The areas recently added to the courts' working description are not affecting this thesis when looking to the future since water operations is the only concern.

It is the operation practitioner that hands in to the court a permit application, with all necessary documents for water operations. For details considering the requirements for applications see chapter four. In the process at court, there are both judicial and expert (within the current area of operations) competencies. The legal judges deliver the judgements together with technical advisors and particular members of the court. (LEC, 2011)

The technical advisors are employees of the court; they hold technical or scientific degrees. Provision of expertise is done by the particular members in the field of which the case at hand is concerned. They are however not employees of the court, they work by assignment. (LEC, 2011)

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<sup>39</sup> Mark- och Miljödömsstolen

<sup>40</sup> There are five Land and Environment Courts. They are a part of the District Courts in (south to north): Växjö, Vänersborg, Nacka, Östersund and Umeå.

### **5.11.2 The LEC Stakeholder Interviews**

No interviews were done here due to the unwillingness of the Courts to speak of matters regarding their work. The Courts' cases, the appeals to and verdicts of the Land and Environmental Court of Appeal have to speak for the LECs views.

## **5.12 The Land and Environmental Court of Appeal<sup>41</sup>**

### **5.12.1 The Mission of the LECA Stakeholder**

The Land and Environmental Court of Appeal at the Svea Court of Appeal in Stockholm is since 2 May 2011 the court of appeal for environmental cases. This court replaced the Environmental Court of Appeal. (LECA, 2011) Since there are no cases yet from the new court, the former court's verdicts are looked at in this paper.

Cases brought forth to the court of appeal are coming from all five of the Land and Environmental Courts. (LECA, 2011) The areas recently added to the courts' working description are not affecting this thesis when looking to the future since water operations is the only concern.

The process at court is carried out in the context of an overall purpose of promoting a sustainable development with appropriate land use. Further, in the background of ensuring present and future generations a healthy and sound environment. (LECA, 2011)

### **5.12.2 The LECA Stakeholder Interview**

Since there have been no replies whatsoever from the Land and Environmental Court of Appeal this section cannot be filled. The only way to know the Stakeholder's view here is to read its cases with motivation to verdicts and the verdicts themselves.

## **5.13 The Main Contractor**

The three largest main contracting companies (MC) in Sweden have been contacted. Only one of them came back and agreed to be interviewed and actually answered the questions posted. Therefore, it is decided that the name of the company will not be mentioned here. The interview will stand as an example of the contractors' work and view. Since the company is so large and have many projects (large and small) going on constantly all over Sweden employing a lot of people, the interviewee can be valid as a representative for many others conducting the same work under highly similar, if not identical, circumstances.

### **5.13.1 The Mission of the MC Stakeholders**

Once they have got the contract, the main contractor's task is to execute the project and, for example, complete the road. They are the ground giving orders to the road workers, rock-blasters, asphalt workers etc. The contractor have to comply with the rules and regulations of the Swedish legal system, follow the permits given by the municipality (-ies), County Administrative Board and Court, and abide by the rules set out by the operator.

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<sup>41</sup> Mark- och Miljööverdomstolen

### **5.13.2 The MC Stakeholder Interview**

The Swedish Transport Administration (STA) usually has a technical description for the environment in their offer/contract document. In some regions the environmental aspect is described in the common technical description that describes the whole execution of the dewatering, handling of chemicals, training and machines. The STA also supplies general environmental rules applicable to all projects.

In the 'bidding for contract' stage no demands regarding the environment are made. The operator usually goes for the lowest bid.

When an MC has been given a contract, only after the project and quality-and environmental plans are handed over to the MC can the work commence. The project plan will describe how the work is to be done including meeting routines, management plans and how to take care of general and specific environmental requirements.

The STA seek all permits necessary to be able to execute the contract, for example, water operations for bridges and road culverts. These are usually in the contract document, but the requirements we have to follow should, for example, be in the technical description for environment. It is not possible, time-wise, to look up a number of court cases regarding water operations at an offering stage. For instance, the contract that an MC the interviewee is working on at present contains a number of different permits - from the municipality, from the County Administrative Board (the Board) and from the Court. There are for example clear requirements from the water operation about water turbidity, pH and conductivity. The Environmental Impact Statement (EIS) is incorporated into the building document. The EIS can be highlighted if, for example, extension to a dumping area is needed for excess material.

There is an environmental inspection on site once a month. The contractor and the operator (normally the STA) are always present and every second month there are visits from representatives of the municipality and the Board. In, for example, in Strömstad municipality (on the west coast of Sweden, close to Norway) the circumstances are a unusual because there is a sensitive watercourse, two wetland areas, a Natura 2000 area, a tunnel, an old railway bank and sand lizards which calls for extra attention.

At these inspections certain questions always arise. There are the general ones like: 'Do you keep a record of the chemicals and a safety data sheet?'; 'Are all the fuel tanks pressure tested?' and 'How does the waste management work?' Then there is the specific questions concerning, say, water quality, sand lizards, leakage in tunnel, etc.

When the project is completed and before the final inspection a final file folder for environment is established. Results are gathered from the sample-taking, divergences considering environment, exhausted/consumed amounts etc and recorded in the final file folder.

The flow of information from the managers to the workers on site is generally a difficult process and is still in progress. Usually the building document stipulates that everyone at the site must go through project-specific environmental training. Sometimes it is the STA that provides the training; sometimes it is the contractor's responsibility. The managers have weekly meetings in which the workers participate. If new or altered protocols are printed and put up in the worker's booths the workers take more notice of them.

At specific jobs, for example in water or other sensitive areas, working schedules are drawn up by the contractor at an early stage before the work starts. These schedules are explained to the

staff and they may ask questions. If, for example, there is a requirement for dredging, it will be written that no drainage water may be directly pumped into watercourses or streams. The water must be pumped into a transport container or into a sedimentation dam. Sample-testing of water has to be done on a daily or weekly basis. All working descriptions are reported to the STA.

Throughout project procedures now the tendency is more and more specialized focus on the environment. Previously, it was the ordinary construction managers from the STA that dealt with environmental issues. In recent years though this has been handled by environmental specialists from the STA or by an outside consultant. They are theoretically very skilled, but lack experience and understanding of the practical work and solutions that are used in a road project. However as times goes, these Specialists are learning how to communicate, compromise and find alternative solutions to difficult problems.

The contractor establishes a control programme for the sample-testing that is going to be done according to the technical description for environment. The STA has in turn a more comprehensive control programme. It includes groundwater measurements, water quality in individual wells and extensive sample-testing in watercourses.

The interviewee's perception is that the environmental requirements are slightly raised year by year. More paper work has appeared in recent years.

Earlier, about five years ago, it was possible for a site manager to handle the environmental issues. Today it is not possible for them to manage it. Where the interviewee works there are five people on site supporting the site management with environmental concerns.

## 5.14 Summary of the Chapter

- The general impression is that the views of the interviews do not differ greatly on an overall level. The differences rather lie in the way or 'culture' of handling issues arising in the interviewees' daily work. The prioritisation of involving time, personnel and other resources in water operation issues versus other issues also vary between the different groups of stakeholders.
- Geographical and demographical aspects have a certain impact; a rural county vs. an urban county have unlike compositions of natural resources and sensitivity as well as population density.
- Vulnerable nature demands more considerations to the actual location, establishment of the Environmental Impact Statement and carrying through of the operation. A high population density implies a large number of private interests. These aspects affect the focus on which environmental issues and concerns.
- The major concern among the stakeholders is mainly the matter of the Standards; how to handle them at present and how the Courts will handle them after 2015. Many of the interviewees sense a great uncertainty and unpredictability over these issues. They wish that the Courts clarify matters and set limits through conditions in permits. Predictability of the Standards' use would help the stakeholders to improve their work in the consultation process including the application as well as the operation itself and the supervision.

- Looking ahead, the great challenges lay closely linked to the uncertainties; how to handle and predict the judicial development of the Standards. The stakeholders must find ways to meet the Standards. Where to draw the line between changes within a status and deterioration of a status need to be established since deterioration is forbidden.

## 6 Analysis

The analysis is based on the Research Questions posed in Chapter 1 of this thesis. These Questions will be discussed in the three subsequent subchapters. The analysis has been done in order to accomplish the objectives of this thesis which are, by understanding the main aspects for enhancing water operations in Swedish road projects, (a) to offer feasible solutions for improved stakeholder compliance in water operations in road projects and (b) to implement measures for clarifying the application of the Environmental Quality Standards thereof.

### 6.1 Aspects most significant for enhancing the permit process for Water Operations in Swedish Road Projects

Research Question: *What are the most challenging and urgent aspects of improving and making the Swedish water operation permit process in road projects easier?*

When the operator already has a planned road project he/she needs a permit for the water operations related to the project. By the time the operator includes other stakeholders in the consultation process for the water operation, the location of the road maintenance or construction is already set. Any environmental concern appearing during the consultation process will not change the location of the project. Therefore it is important that all stakeholders concerned are involved from the initiation of the project, to be able to take all measures needed so as to avoid any unnecessary negative environmental impact. Even if all details cannot be known at the consultation stage and at the submission of the application stage, it is important to be able to meet the requirements of the Statement in order to get the permit. The granting of the permit is dependent on the fulfilment of the Statement according to the law. (Case MÖD 2003:27)

If a significant environmental impact is likely to occur, it might be wise to include a wider circle of stakeholders at an earlier stage of the consultation process. This will be beneficial in both time and money. It is also important to give the stakeholders enough time to investigate the local conditions, previous cases and existing material, and to take their results into serious consideration. These conclusions are drawn from what was said at the interviews.

The operator, normally the Swedish Transport Administration (STA), is often working under time pressure, which sometimes results in disregard of regulations. For example, the operator may not apply for a permit or even make a notification, even though the situation calls for such measures. This is usually done for financial reasons since payment is withdrawn if work is not completed within the given time frame.<sup>42</sup> There must be an improved communication between the allocator of the road funding and the operator, here: the STA to avoid the above scenario. Shared document and onsite knowledge, virtual and physical (where possible) meetings are examples of tools to enhance communication and thereto project realisation.

Common guidelines for the permit process including consultation could be drawn up by the operator and the Board(s). More focus on making more complete EIS and further including the Standards in permit applications. This could be done through the sharing of knowledge and experience in writing applications. Choosing to gain new insights regarding the Standards

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<sup>42</sup> These views are deduced from the interviews.

by exploring them and the activity programmes are prerequisites for enhancing their inclusion in applications. This focus is important for strengthening and fairness at the permit procedure at Court, the project realisation and also for the implementation of the Standards.

The operator should take as a habit to always consider water operations already at the planning stage of a road project; that saves time later on, money, and avoids placing a road in an (too) environmentally sensitive area.

## **6.2 Measures most feasible for Stakeholder compliance in Water Operations at Road Projects**

*Sub-Research Question: What are the most feasible measures for achieving compliance and observance of the water operation permit conditions in road projects with regard to the mission of the operators, contractors and supervisory authorities and in their collaboration?*

There is concern among stakeholders that supervision of water operations in road projects is not prioritised by the supervisory authority. The supervisory authority is usually the County Administrative Board (the Board) for the supervision of water operations in road projects but supervision of environmental quality standards is usually shared between the Board and the relevant municipality.

Environmentally hazardous activities are always a priority while water operations seem to be less urgent, even though they are of great importance to both public and private interests, i.e. wells, farming and domestic animals, flora and fauna (for example, fish migration). Hence, projects that include water operations are seldom given any supervision except for scheduled visits and even then the focus may not always be on the actual water operation(s). Instead, the focus may be on health and safety for the workers, quality issues and possible hazardous activities. Because the Boards have limited resources to investigate all operations they must prioritise and this leads to supervision that is uneven in its focus and depth.

This lack of sufficient supervision leads to fewer presidential cases i.e. cases in the Land and Environmental court of appeal. From the operator's point of view, they see no point in appealing to the higher court since they have already been granted the permit and thus their main interest lies in getting started and completing the work. If the operator made an appeal to the higher court it would be more time-consuming and cost more. Due to the limited resources the Boards have prioritised with the result water operations are under-supervised, i.e. they have no time to make in-depth investigations on site or go through data and paper work. Thus, the Boards have little possibility of ensuring that every condition of a permit is complied with. This results in the lack of means to bring cases to the Court of Appeal. However, it is more likely to happen when a control programme is included as a condition for the operation permit thereby aiding the Boards' supervision.

More resources are needed to increase water operation supervision for the supervisory authority. Through more supervision better supervision can hopefully evolve, i.e. more tailored och effective supervision by the supervisory authority as they gain water operation experience.

Contractors have gained more understanding and knowledge about environmental issues, and they may now even suggest a control programme during the application examination at court. There are written routines and documents that can be invoked for self-inspection regarding environmental issues and health and safety. These self-inspections are, however, a more subjective means of inspection. The contractor can choose how to execute the inspection and

documentation and so choose which resulting measures need to be taken. Despite this there is still call for improved communication between the parties. A more harmonised and transparent collaboration is necessary. The terminology (words and phrases) - so that the parties understand each other; documents – so that everybody has the same data; meetings – so that all concerned parties are represented and get the same information.

The culture and attitude among officers and workers taking part in water operations in road projects are also affecting their compliance. An enhanced positive and holistic view of the water operation as a part of the road project would assist that compliance.

### 6.3 Measures to clarify application matters of the Environmental Quality Standards

Sub-Research Question: *What measures could be taken to further clarify matters concerning the application of the Environmental Quality Standards from a judicial and supervisory perspective?*

The EU Water Framework Directive of 2000/60/EC has resulted in changes to the Swedish the environmental code (1998:808) and in the establishment of the Regulation (2004:660) on Water Environment Quality. Establishment of the Swedish Water Authorities is another measure that helps implement the EU framework directive. There are five Swedish Water Authorities which are located in the respective localities of the five County Administrative Boards. These fairly new Authorities have been given the responsibility of ensuring and enabling Sweden to reach (at least) “good water status” in all its waters by 2015 although exceptions can be made up until 2027. By taking these measures Sweden has satisfactorily harmonised its internal legislation with the EU.

Challenges still remain in implementing the legal rules at the Swedish Authorities, in the Courts, and with the operators. Each must work for the realisation of the Standards and promote and steer inclusion of the rules in the permit applications and the later conditions for the permits. Many of the interviewed stakeholders have requested more clarification from the Courts of the Standards through conditions in water operation permits especially regarding implications and uses.

The general concern amongst the stakeholders is that the Land and Environmental Courts disregard the standards in the examination and in the permit conditions. Naturally, the Courts are being cautious at present with the standards and will probably be so until the end of 2015, since they don't know how the EU Court of Justice will deal with the Standards. The guidance given by the Court of Justice, with regard to the Case Law, establishes that the member states must take the measures necessary during the transposition period so as to ensure that the standards meet the provisions of the directive. The Swedish Courts do not want to put very rigid constraints on the permit conditions for operators since that might cripple the operators' work and hence the project itself. On the other hand the Swedish Courts run the risk of not enabling the Standards to be met by the end of 2015, or even by 2027. This is in the knowledge that a road project and hence any water operation project with that can last several years. If the Standards are not met by the 2015 deadline, Sweden could be charged and sentenced by the Court of Justice for not complying with the Standards (as set out under the Directive) and so forced to take further legislative measures to ensure yet higher requirements for the operators of water operations are enforced: making it almost impossible to comply with the legislation.<sup>43</sup> Sweden needs further to take a precaution in legal implementation

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<sup>43</sup> These predictions are reflected in the interviews and shared by the author of this thesis.



before 2015 through assessing and amending its environmental laws and regulations to ensure them meeting the requirements set by the EU Water Framework Directive of 2000/60/EC.

## 7 Conclusions

### 7.1 Summary of the Findings

It is important to include all stakeholders concerned from the initiation of the project, to be able to take all measures needed so as to avoid any unnecessary negative environmental impact. The operator should include any consultation material in the Environmental Impact Statement (Statement). Even if all details cannot be known at the consultation stage and at the submission of the application stage, it is important to be able to meet the requirements of the Statement in order to get the permit. The granting of the permit is dependent on the fulfilment of the Statement according to the law. (Case MÖD 2003:27)

The operator, normally the Swedish Transport Administration (STA), is often working under time pressure, which sometimes results in ignoring regulations. For example, the operator may not apply for a permit or even make a notification, even though the situation calls for such measures. This is usually done for financial reasons since payment is withdrawn if work is not completed within the given time frame.

There is concern among stakeholders that supervision of water operations in road projects is not prioritised by the supervisory authority. The supervisory authority is usually the County Administrative Board (the Board) for the supervision of water operations in road projects but supervision of environmental quality standards is usually shared between the Board and the relevant municipality.

Environmentally hazardous activities are always a priority while water operations seem to be less urgent, even though they are of great importance to both public and private interests. Hence, projects that include water operations are seldom given any supervision except for scheduled visits and even then the focus may not always be on the actual water operation(s). Instead, the focus may be on other areas. Because the Boards have limited resources to investigate all operations they must prioritise and this leads to supervision that is uneven in its focus and depth.

This lack of sufficient supervision leads to fewer presidential cases i.e. cases in the Land and Environmental court of appeal. From the operator's point of view, they see no point in appealing to the higher court since they have already been granted the permit and thus their main interest lies in getting started and completing the work; an appeal would be time-consuming and costly. Due to the limited resources the Boards have prioritised with the result water operations are under-supervised, i.e. they have no time to make in-depth investigations on site or go through data and paper work. Thus, the Boards have little possibility of ensuring that every condition of a permit is complied with. This results in the lack of means to bring cases to the Court of Appeal. However, it is more likely to happen when a control program is included as a condition for the operation permit thereby aiding the Boards' supervision. Contractors have gained more understanding and knowledge about environmental issues, and they may now even suggest a control program during the application examination at court. There are written routines and documents that can be invoked for self-inspection regarding environmental issues and health and safety. These self-inspections are, however, a more subjective means of inspection; the contractor executes the inspection and documentation and chooses measures to be taken.

The EU Water Framework Directive of 2000/60/EC has led to changes and amendments in Swedish legislation (see chapter 6.3). The initiation of the Swedish Water Authorities is

another measure of implementing the framework directive. These fairly new authorities have been given the responsibility of ensuring and enabling Sweden to reach (at least) “good water status” in all its waters by 2015; exceptions can be made until 2027. By taking these measures Sweden has harmonised its legislation. There is still however a need for assessing and adjusting Swedish environmental laws and regulations to ensure that these live up to and give practical guidance to the Directive’s requirements.

The challenges remain to implement the legal rules at the Swedish Authorities, the Courts, and the operators. They must work for the realisation of the Standards, and promote and steer to their inclusion in the permit applications and later in conditions for the permits. There is a request from many of the interviewed stakeholders, for the clarification of the standards and their implication and use.

The general apprehension amongst the stakeholders is that the Land and Environmental Courts disregard the standards in the examination and the permit conditions. Naturally, the Courts are being cautious with the standards at present and will probably be so until the end of 2015, since they don’t know how the EU Court of Justice will deal with the Standards. The guidance given by the Court of Justice, with regard to the Case Law, establishes that the Member States must take the measures necessary during the transposition period, to meet the provisions of the directive. (Case C-129/96) The Swedish Courts do not want to put too strict constraints through Standard conditions in permits on the operators since that might limit the operators’ work, operations and projects too much. If the Standards are not met by the 2015 deadline, Sweden could be charged and sentenced by the Court of Justice for not complying with the Standards (as set out under the Directive). Sweden could then be forced to take further legislative measures to ensure yet higher requirements for the operators of water operations are enforced: making it almost impossible to comply with the legislation.

## **7.2 Recommendations**

In this subchapter recommendations will follow with the aim of guiding development and improvement of road projects from an environmental point of view. This in the perspective of a time frame covering consultation procedure, permit application, the permit(s) itself and supervision of a project’s realisation, particularly with regard to the water operations.

The operator should take as a habit to include consultation material in the Environmental Impact Statement (Statement) to ensure meeting the requirements of a permit application. This would be beneficial for the operator itself when being able to show a fuller picture of the different opinions and angles (stakeholders’ views) at the trial at Court. The reason is that the inclusion gives the court more information about the project from several angles and therefore more material to base its judgement on, and hopefully a fairer outcome.

The Board needs more resources set aside to improve their supervision of water operations; especially with regard to the implementation of the Environmental Quality Standards aim of 2015 (see subchapter 6.3). It would also be helpful to co-ordinate the supervision among the Boards in cases where the project overlaps geographically into several counties. It would also be beneficial if other actors could more frequently report observations to the Board(s) (for example, the stakeholders included in Chapter 5). This could be enabled through co-ordination plans or programmes. Exchange of knowledge between the Board, the municipality, the operators and the contractors as a way of finding alternative solutions are also of major importance. This can be done through establishing standard documents like a list of project procedure and operational checklists. Information is added or updated in these

documents at monthly meetings among the parties or more frequent when changes occur, by any party. This information is filled in and put in folders at a common intranet easily accessible for the parties. Examples of knowledge are: site specific information of nature (water) conditions and characteristics known before hand and changes or findings occurring during the operation.

Whistle-blowers, at contractor and operator level, should be encouraged to report nuisances, risks, violation of permit conditions, etc. These initiatives could be encouraged through open-mindedness at management level, measures protecting the whistle-blowers from reprisals, 'employee of the month' etc.

The Swedish Courts should not, with regard to the Standards, continue to take their wait and stance. Instead, they should prepare the other stakeholders, foremost the operator(s) and Board(s) for 2015 by clarifying the Standards when included in water operation applications. This would give reassurance to the other stakeholders that are interested in being able to rely on more constant, higher standards in the future. This would be beneficial for the work of, especially the Boards and operators since they are the 'key players' in both the planning and consultation stages and in the supervision and realization stages of the water operations. An overseeing of the implementation of predictable, high Standards through law or regulations is necessary; i.e. ensuring the Standards to be clearly set and strict enough to well meet the requirements of the Water Framework Directive 2000/60/EC. This would prevent Sweden from being charged and sentenced by the Court of Justice for failure to comply; with all the subsequent consequences such a verdict would imply.

### 7.3 Further research

The following topics could be of interest for further research:

- How can the stakeholders establish a forum for exchange of knowledge and experience within water operations in road projects?

This topic could explore how the stakeholders of the Board(s), the STA, concerned authorities and agencies together create a forum in which they exchange knowledge and their experience of water operations in road projects. The matter of what body would be in charge of the forum. Copyright issues; who would hold the right to access, add and change information and knowledge. The issue whether legal changes are necessary or present legislation sufficient for this forum to be created.

- The development of involving the water operation perspective in road projects already at the planning stage

The development of the operator taking initiative to involve the water operation perspective in road projects at the planning stage. The past, the present and what is likely to come. What the positive impacts on water operations and their permit process are from an environmental and operational (economic, timesaving etc) view seen over time, when this initiative is taken.

- How will the requirements and content of the Environmental Impact Statements evolve with regard to further implementation of the Environmental Quality Standards?

The requirements: will they be harder to fulfil, more predictable, more or less time-consuming work wise and/or content wise, some previous requirements less focused or not etc. The content: will it be more extensive, easier or harder to grasp, more detailed etc.

- The Swedish legislation development of the Environmental Quality Standards

How the continuous Swedish implementation of the Water Framework Directive 2000/60/EC works at present and what actions are needed for the future to come. This ongoing harmonisation of the Environmental Code and Regulations to match the requirements of the Directive, how is Sweden progressing and what about evaluation of the implementations thus far. Predictions looking past the water status deadline of 2015; what we can possibly expect from the EU Court of Justice- whether Sweden will pass, whether our measures will be enough to fulfil the Directive.

- How to develop the use of the Environmental Quality Standards at Swedish Courts, in for example conditions for permits?

How the various stakeholders can contribute to the development of the use of the Standards at the Courts. The operator could bring to the table by including the Standards in the permit application. The Board could add with its advices and emphasis on the Standards in the consultation process and suit at Court. The judges could choose to clarify and include the Standards in conditions for permits. Etc.

- How to strengthen and aid the Swedish Water Authorities' role in the pursuit of reaching 'good water status' in Swedish waters?

The issue of implementing the activity programmes and strengthen their legitimacy. Moreover the manner in which to take water status into consideration when planning a road project involving a water body (-ies) and enhance supervision of water operations. The need for the Courts to handle and clarify the Standards with regard to water bodies' status.

- How to implement the suggestions given by this thesis?

How the recommendations in this thesis can be implemented, i.e. to realise them in the organisations and work of the authorities and agencies as well as in the general society. The additional measures needed to implement the suggestions; identify and describe them. How the recommendations given should or could be prioritised amongst themselves.

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## Interviews

- All the interviews are carried out by Maria Remstam

Andersson, P. (2011, June 23). Water Officer Environmental Protection/ Water Operations at the County Administrative Board, County of Värmland.

Gustafsson, J. (2011, June 17). Assistant Water Preservation Director at the County Administrative Board, County of Västra Götaland.

Hellquist, R. and Leine, N. (2011, July 6). Senior Litigation Officers at the Legal, Financial and Administrative Services Agency, Stockholm

Jonsson, K. (2011, June 23). Environmental Specialist Environmental Unit at the County Administrative Board, County of Dalarna.



- Larsson, B. (2011, June 20). Officer at the Swedish National Board of Housing, Building and Planning, Karlskrona
- Ohlsson, S. (2011, June 28). Water Officer Environmental Unit at the County Administrative Board, County of Västerbotten.
- Peters, A. (2011, June 20). Officer Department for Effectuation the Swedish Environmental Protection Agency, Stockholm.
- Skarstedt, A. (2011, June 21). Function responsible Nature supervision, Nature Department at the County Administrative Board, Jönköping.
- Sorby, L. (2011, July 8). Head of the Water Administration Unit at the Sea and Water Authority, Göteborg.
- Stenlund, O. (2011, June 30). Environmental Specialist civil engineer at the Swedish Transport Administration, Göteborg.
- Sundqvist, B. (2011, June 29). Environmental Specialist at the Swedish Transport Administration, Stockholm.
- Vestin, T. (2011, June 21). Water Officer Environmental Protection Unit at the County Administrative Board, County of Stockholm.
- xxx. (2011, June 20). Environmental lawyer at the Swedish Society for Nature Conservation, Stockholm.
- X. (2011, June 23). Environmental Specialist Water Operations at the Swedish Transport Administration, North.
- xxx. (2011, June 28). Hydro geologist at the Swedish Geological Investigation, Uppsala.
- Y. (2011, July 5). External consultant project leader at the municipality of Stockholm City, Stockholm.
- xxx (2011, August 15). Site manager, one of Sweden's largest main contracting companies, Göteborg.



## Appendix I – The Timeline of this Thesis

Month	May			June			July			Aug			Sep					
Week	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	
LR I: Legal background; technology; interests	[Blue bar]																	
LR II: Theoretical background; framework identification		[Blue bar]																
LR III: First identification of participation shortcomings					[Blue bar]													
Identify initial set of interview partners (starting point: Plan N)		[Blue bar]																
Identify further interview partners via snowballing			[Blue bar]															
Questionnaire development for semi-structured interview						[Blue bar]												
Interviews: complete shortcomings, discuss solutions								[Blue bar]										
Analysis of interviews/suitability of new laws to solve problems											[Blue bar]							
Writing			[Blue bar]									[Blue bar]						

## **Appendix II - Swedish Environmental Legislation**

### **The Environmental Code (1998:808) (Miljöbalk (1998:808))**

#### **Chapter 2. General rules of consideration etc.**

**Section 3.** Persons who pursue an activity or take a measure, or intend to do so, shall implement protective measures, comply with restrictions and take any other precautions that are necessary in order to prevent, hinder or combat damage or detriment to human health or the environment as a result of the activity or measure. For the same reason, the best possible technology shall be used in connection with professional activities.

Such precautions shall be taken as soon as there is cause to assume that an activity or measure may cause damage or detriment to human health or the environment.

**Section 9.** If an activity or measure is likely to cause significant damage or detriment to human health or the environment, even where protective measures and other precautions are taken as required by this Code, the activity or the measure may only be undertaken in special circumstances.

An activity or measure must not be undertaken if it is liable to lead to a significant deterioration in the living conditions of a large number of people or substantial detriment to the environment.

The provisions of the first and second paragraph shall not be applicable where the Government permits the activity pursuant to Chapter 17, section 1, 3 or 4. *Act (2002:175).*

#### **Chapter 4. Special provisions concerning Land and Water Management in Certain Areas in Sweden**

**Section 8.** A utilisation of land and water that can influence an area of unspoiled nature which has been listed according to Chapter 7 section 27 first paragraph point 1 or 2 and that include activities or measures demanding application according to Chapter 7 Section 28 a may be brought about only if such a permit has been given.

## **Chapter 5. Environmental Quality Standards and Environmental Quality Management**

### **Provisions concerning Environmental Quality**

**Section 1.** The Government may issue rules with respect to certain geographical areas or to the country as a whole concerning the quality of land, water, air or the environment in general if this is necessary in order to provide lasting protection for human health, for the environment or to remedy adverse effects on human health or on the environment (Environmental Quality Standards).

The Government may instruct a public Authority to issue Environmental Quality Standards arising out of Sweden's membership of the European Union.

### **Matters to be specified in the Environmental Quality Standards**

**Section 2.** Environmental quality standards shall specify the-

1. levels of pollution or disturbance to which the population may be exposed without any risk of significant detriment or to which the environment or nature may be exposed without any risk of substantial detriment and may not be exceeded or fall below after a specified date or during one or several time periods,
2. Levels of pollution or disturbance that shall be aimed at or that may not be exceeded or fall below after a specified date or during one or several time periods.
3. The maximum or minimum occurrence in surface water and groundwater of organisms that can serve as indicators of the state of the environment, or
4. Other measurements of the environment in consequence of Sweden's membership of the European Union.

Environmental quality standards shall be reviewed whenever necessary. *Act (2003:890).*

### **Measurements and Checks**

**Section 9.** In connection with the issuance of the rules referred to in Section 1, the Government shall also decide who shall carry out the measurements that are needed to check compliance with an Environmental Quality Standard.

The Government or the Authority appointed by the Government may issue rules concerning measuring methods to check the compliance with an Environmental Quality Standard and check the measurement methods and measurement equipment.

## **Chapter 6. Environmental Impact Statements and other Decision Guidance Data**

### **When Environmental Impact Statements are required-**

**Section 1.** An Environmental Impact Statement shall be submitted together with an application for a permit referred to in Chapters 9, 11 and 12 or in rules issued pursuant to this Code. Such a statement shall also be submitted for the purposes of permissibility assessments pursuant to Chapter 17, and permit applications pursuant to Chapter 7, Section 28. a.

The Government may provide that an Environmental Impact Statement shall also be prepared for the purposes of applications for exemption or other matters governed by this Code or rules issued in pursuance thereof where this is necessary to make it possible to assess the environmental impact.

The Government may also provide for exemptions from the requirement to prepare an Environmental Impact Statement pursuant to the first paragraph where the environmental impact of the activities is likely to be minor.

An Environmental Impact Statement shall be submitted when an Authority or Municipality make an environmental assessment of a plan or programme followed by Section 12. *Act (2004:606).*

### **The purpose of Environmental Impact Statements and Assessments**

**Section 3.** The purpose of an environmental impact assessment is to establish and describe the direct and indirect impact of a planned activity or measure on people, animals, plants, land, water, air, the climate, the landscape and the cultural environment, on the management of land, water and the physical environment in general, and on other management of materials, raw materials and energy. Another purpose is to enable an overall assessment to be made of this impact on human health and the environment.

The purpose of an environmental impact assessment involving an activity covered by the Act (1999:381) on Measures to Prevent and Limit the Consequences of Serious Chemical Accidents, is also to identify and assess factors surrounding the activity that may affect its safety. *Act (2004:606).*

## **Early consultations and decisions concerning a Significant Environmental Impact**

**Section 4.** Persons who intend to pursue an activity or take a measure shall consult with

1. The County Administrative Board, the supervisory Authority and the private individuals who are likely to be affected, for which a permit or decision concerning permissibility is required pursuant to this Code or to rules issued in pursuance thereof, or
2. Those pursuant to point 1 and with the other government agencies, the Municipalities, the citizens and the organizations that are likely to be affected, if
  - a) The activity or measure followed by prescriptions issued in pursuance of Section 4 a. are likely to have a significant environmental impact,
  - b) The supervisory authority has the person who intends to undertake the activity or measure of applying for a permit pursuant to Chapter 9. Section 6, or
  - c) The activity or measure due to the decision of the County Administrative Board pursuant to Section 5, second paragraph, is likely to have a significant environmental impact. The consultation must be done in good time and to an appropriate extent before submitting an application for a permit and preparing the Environmental Impact Statement that is required in accordance with Section 1. The consultation shall relate to the location, scope, design and environmental impact of the activity or measure and the content and structure of the environmental impact statement.

Prior to consultation, a person who intends to pursue an activity shall submit information about the location, extent and nature of the planned activity and its anticipated environmental impact. The information shall be submitted to the County Administrative Board, the supervisory Authority and the private individuals especially affected...

The provisions of the first and third paragraph shall also apply to matters for which an environmental impact statement is required pursuant to section 1 second paragraph. *Act (2009:652).*

**Section 4. a.** The Government may specify activities and measures that are always likely to have a significant environmental impact. *Act (2005:571).*

## **Extended Consultations, including an Environmental Impact Assessment**

**Section 5.** The County Administrative Board shall, during the consultation pursuant to Section 4, work for the

Environmental Impact Statement to get the direction and extent necessary for consideration of permit applications.

If the County Administrative Board decides that the activity or measure is not subject to Section 4, first paragraph point 2 a. or 2 b., the County Administrative Board shall during the consultation assess if the activity or measure is still likely to have a significant environmental impact. Before the decision is taken by the County Administrative Board, an opinion shall be obtained on the matter from the supervisory Authority and the private individuals likely to be especially affected. Such a decision shall not be appealable. *Act (2009:652)*.

### **Contents of Environmental Impact Statements**

**Section 7.** An Environmental Impact Statement shall, to the extent necessary in view of the nature and scope of the activity or measure, contain the information for the purpose referred to in Section 3.

If the activity or measure is included by the consultation requirement in Section 4, first paragraph, point 2, the Environmental Impact Statement shall always contain the following-

1. A description of the activity, or measure, together with details of its location, design and scope.
2. A description of the measures being planned with a view to avoiding, mitigating or remedying adverse effects, for example, action to prevent the activity or measure leading to an infringement of an environmental quality standard referred to in Chapter 5..
3. The information that is needed to establish and assess the main impact on human health, the environment and on the management of land, water and other resources that the activity or measure is likely to have.
4. A description of possible alternative sites and alternative designs, together with a statement of the reasons why a specific alternative was chosen, and a description of the consequences if the activity or measure is not implemented, and
5. A non-technical summary of the information specified in points 1-4.

If the County Administrative Board decides, pursuant to Section 4, third paragraph, that the activity, or measure, is likely to have a significant environmental impact, it may require that a report describing alternative ways of achieving the same outcome be also submitted, together with the description of the alternative designs mentioned in the first paragraph, point 4.



For activities, or measures, that are likely to affect the environment in an unspoiled Nature Area, designated pursuant to Chapter 7, Section 27, first paragraph, point 1 or 2, an Environmental Impact Statement shall always contain the information necessary for the consideration of permit applications pursuant to Chapter 7, Section 28 b. and 29. If the Environmental Impact Statement has been established only for the consideration of permit applications, pursuant to Chapter 7, Section 28 b and 29 the Statement only needs to contain the information necessary for that consideration of permit applications. *Act (2010:882)*.

## **Chapter 7. Protection of Areas**

### **List of Areas of Unspoiled Nature**

**Section 27.** The Government or the authority appointed by the Government shall continuously keep a list of areas of unspoiled nature for which protection is to be provided or has been provided in accordance with-

1. Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (last changed through Directive 97/49/EC as a special protection area).
2. Council Directive 92/43/EC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, changed through Directive 97/62/EC as a special conservation area or
3. International undertakings, or National objectives, relating to the protection of such areas.

The list shall specify the Directive, International undertaking or National objective that justifies inclusion of the area in the list.

The areas included in the list shall be given priority in future protection measures. *Act (2001:437)*.

### **Special Protection Areas and Special Areas of Conservation**

**Section 28.** The Government may designate an area of unspoiled nature as a special protection area if, in accordance with Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds, as last amended by Commission Directive 97/49/EEC, the area is particularly important for the protection of such birds.

An area that is recognized as an area of Community interest by the Commission of the European Communities shall be designated a special area of conservation by the Government

pursuant to Article 4.4 in Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, as last amended by Council Directive 2006/105/EC.

The Government may, following consultation with the Commission, cancel a designation referred to in the first or the second paragraph if the area's natural assets no longer justify the designation. *Act (2011:322)*.

**Section 28 a.** A permit is required in order to practice activities or take measures that in a significant way can affect the environment in an area of unspoiled nature that has been listed according to Section 27, first paragraph, point 1 or 2. Permit according to the first paragraph is not required for activities and measures that are directly connected to or necessary for the maintenance and administration of the concerned area. *Act (2001:437)*.

**Section 28 b.** Permit according to section 28 a., may only be given if the activity or the measure alone or together with other ongoing or planned activities or measures that-

1. Cannot harm the fauna or the faunas in regard of being protected in the area.
2. Do not cause a species or species in regard to being protected to be subject to a disturbance that in a significant way can obstruct the conservation of the species or species in the area. *Act (2001:437)*.

## Chapter 11. Water Operations

### Definitions

**Section 2.** 'Water Operations' shall mean-

1. The construction, alteration, repair and removal of dams or other water structures in water areas, filling and piling in water areas, the removal of water from or digging, blasting and cleansing in water areas, as well as other measures in water areas whose purpose is to change the depth or position of the water.
2. The diversion of groundwater and the erection of structures for this purpose.
3. Recharging in order to increase the volume of groundwater, as well as the erection of structures, and other measures for this purpose.
4. Measures undertaken to drain land, except for the purpose of diverting wastewater or measures to lower or empty a water area or to provide protection against water where the

purpose is to increase permanently the suitability of a property for a certain purpose (land drainage).

### **Permit requirement for Water Operations**

**Section 9.** Subject to the provisions of this Chapter, a permit must be obtained for Water Operations within the meaning of this Code.

Persons who wish to carry on water operations may apply for a permit even where a permit is not required for such operations.

Irrespective of what follows in Section 11-15, 19 and 23, permit for a certain operation or measure can still be required according to Chapter 7, Section 28 a. *Act (2005:571)*.

**Section 9. a.** Instead of a permit, the Government may give prescriptions for certain water operations in which there shall be notification before commencement.

Even if the duty to notify has been prescribed, the supervising Authority may, according to prescriptions by the Government, in specific cases prescribe an Operator to apply for permit. *Act (2005:571)*.

**Section 9 b.** Applications for water operation permits shall be considered by the Land- and Environmental Courts. However, applications for land drainage permits shall be considered by County Administrative Boards unless they must be considered by the Land- and Environmental Courts pursuant to Chapter 7, Sections 19 and 20 of the Act (1998:812) containing Special Provisions concerning Water Operations.

Notification of water operation shall, according to prescriptions given by the Government, be done to the medical general, the County Administrative Board or the Municipality.

A Water Operation with a duty to notify may commence, at the earliest, eight weeks after the notification is given unless the supervisory Authority decides otherwise. *Act (2010:923)*.

**Section 12.** Permits referred to in this Code or notification according to Section 9 a. shall not be required where public or private interests are manifestly not harmed by the impact of Water Operations on water conditions.

It follows from Section 13. that the first paragraph does not apply to land drainage or, where the Government so requires, to other measures taken for the purpose of draining land. *Act (2005:571)*.

## **Chapter 16. General Provisions concerning the Consideration of Cases and Matters**

### **Reviewing Authorities**

**Section 6.** A permit, approval or exemption may be refused to a person who did not discharge his obligations under a previous permit, approval or exemption. The same shall apply to a person who has previously omitted to apply for the necessary permit, approval or exemption. Where such omission has occurred, a permit, approval or exemption may also be refused if the applicant or a person who, by reason of ownership structure or division of responsibilities, is closely associated with the applicant's activities, is, or was, similarly associated with the activity in which the omission occurred.

**Section 7.** In connection with the consideration of cases and matters pursuant to this Code, attention shall be paid to other activities or special structures that are likely to be necessary for efficient operations.

**Section 10.** If a water operation is pursued without permission, the burden of proof shall rest on the operator to establish the water conditions that prevailed prior to commencement of the operation.

## **Chapter 17. The Government's consideration of permissibility**

### **Compulsory consideration of permissibility**

**Section 1.** The Government shall consider the permissibility of new activities or operations of the following kinds-

1. Nuclear installations that are subject to examination by the Government pursuant to the Nuclear Activities Act (1984:3) and plants for the extraction of uranium-bearing materials or other substances that can be used for the production of nuclear fuel.
2. Motorways, expressways and other roads with at least four traffic lanes that are not less than ten kilometres in length.
3. Long-distance railway lines and the construction of, at least, five kilometres of new railway tracks for existing long-distance Railway lines and-
4. Public navigation channels. *Act (2005:571)*.

## **Chapter 22. The Procedure for Application Cases in Land- and Environmental Courts**

**Section 2.** The application documents shall be submitted in the number of copies that the Land- and Environmental Court Considers necessary.

If the number of copies of application documents submitted is not sufficient, or if the environmental court considers the application incomplete, it shall order the applicant to correct the fault within a specified period. If the applicant does not comply with the injunction, the court may rule that the fault shall be remedied at the applicant's expense or, where the fault is so serious that the application cannot be used as a basis for examination of the case, it may reject the application. *Act (2010:923)*.

## **Chapter 26. Supervision**

### **Operators' Control and Environmental Reports**

**Section 19.** Persons who pursue an activity or take a measure that is liable to cause detriment to human health or affect the environment shall continuously plan and monitor the activities in order to combat or prevent such effects.

Persons who pursue such an activity or take such a measure shall also keep themselves informed, by carrying out investigations on their own initiative or by other means, about the impact on the environment of the activity or measure.

At the request of the supervisory authority, a person who pursues such an activity shall submit proposals for control programmes or remedial measures to the authority.

The Government or the Authority appointed by the Government may issue rules concerning controls.

## **Act (1998:812) Containing Special Provisions concerning Water Operations (Lag (1998:812) med särskilda bestämmelser om vattenverksamhet)**

### **Chapter 1. Introductory Provisions**

**Section 1.** This act is applicable to water operations and water structures. There are also provisions of water operations and water structures in the Environmental Code.

**Section 2.** The definitions in the Environmental Code are also applicable to this act.

## **Chapter 2. Right over water etc.**

**Section 1.** To be allowed to pursue water operations the operator shall have right over the water within the area where the operation will be pursued.

**Section 4.** Persons who want to pursue water operations have for this purpose right pursuant to section 1, if the water operation means

1. Water regulation,
2. Water catchments for public water supply, public heat supply or irrigation,
3. Land drainage,
4. Water operations that are necessary for public roads, public navigation channel or port,
5. Water operations that are necessary to counteract pollution caused by wastewater, or
6. Water operations necessary for railways.

**Section 5.** The State, Municipalities and Water Management Associations have gumption pursuant to section 1 to pursue such water operations that are beneficial to human health or the environment or are calculated to promote fishing.

## **Regulation (1998:905) on Environmental Impact Statements**

### **(Förordning (1998:905) om miljökonsekvensbeskrivningar)**

**Section 1.** This regulation applies to environmental impact assessments and environmental impact statements pursuant to chapter 6 the Environmental Code. *Regulation (2005:356)*.

### **Environmental Impact Statements for Activities and Measures**

**Section 3.** An activity or measure shall always be presumed to cause significant environmental impact, if the activity or measure -

1. According to the Annex to the Regulation (1998:899) on environmentally hazardous activity and health protection are comprised by the activity description in //...//,
2. According to the Annex to the Regulation on environmentally hazardous activity and health protection are

comprised by the activity description in 10.10, 10.11 or 10.20 and //...//,

3. Is a water operation with -

- a) A mini power station or other hydroelectric power station,
- b) A water bridge passage by more than five percent of normal ebb tide amount in any of the concerned areas, or
- c) Dredging in an environmentally risky area or dredging for a navigation channel, or

4. Is comprised by any of the provisions of, on the Government's compulsory consideration of permissibility pursuant to Chapter 17, Section 1 points 2, 4 or Section 4 a., points 13, 17, the Environmental Code.

Concerning other activities and measures other than those pursuant to the first paragraph, and concerning changes of such activities and measures pursuant to the first paragraph the County Administrative Board shall, with support of the criteria specified in Annex 2 of this regulation, decide if the activity, or measure, is likely to cause significant environmental impact. *Regulation (2009:864)*.

## Final Provisions

**Section 12.** Notification pursuant to Chapter 6 Section 8 of the Environmental Code that an Environmental Impact Statement has been established shall, when nothing else is prescribed, will be published in a local newspaper. In the Notification written points of view on the Environmental Impact Statement may be given within the time prescribed by the Authority. Where and when there is access to the Statement must also be printed. *Regulation (2005:356)*.

**Section 14.** The Swedish Environmental Protection Agency may, after consultation with the Swedish National Board of Housing, Building and Planning, the Swedish National Heritage Board and the National Board of Health and Welfare, give prescriptions for the appliance of this regulation. *Regulation (2005:356)*.

## Annex 2 of Regulation (1998:905)

Criteria pursuant to Section 3 second paragraph, Regulation (1998:905) on Environmental Impact Statements

### 1. The Characteristics of the Project

The characteristics of the project must be considered, especially-

- a) The magnitude of the project,
- b) The merge of the project with other projects,
- c) The project's use of land, water and other resources,

- d) The waste generation of the project,
- e) Pollution and disturbances, and
- f) Risk of casualties, especially with regard to the substances and technique used.

## **2. The localisation of the project**

The environmental sensitivity in the areas that are likely to be affected must be considered. At the assessment special consideration shall be taken to -

- a) Present land usage,
- b) The presence of the land, water and other resources, quality and renewal ability in the area, and
- c) The existing environment's sensitivity, with special attention to larger unspoiled Nature areas, Wetlands, Coastal areas, Mountain- and Forest areas, National Parks, Nature reserves, Culture reserves and other areas protected pursuant to Chapter 7 of the Environmental Code, Areas where quality standards have been violated or are in risk of being violated, densely populated areas and historically, culturally or archaeologically or important land areas.

## **3. The Possible Characteristics of the Effects**

The project's possible significant impact must be considered in relation to the criteria in points 1 and 2 and specially when concerning -

- a) the magnitude of the effects (geographical area and the size of the concerned population),
- b) the trans boundary character of the effects,
- c) the significance and complexity of the effects, in which special consideration ought to be taken to the public need of information,
- d) the likeliness of the effects, and
- e) the durability, ordinariness and appearance of the effects (reversibility)

### **Annex 3 of Regulation (1998:905)**

The relevant section of this Appendix is chosen.

## **INFRASTRUCTURE PROJECTS**

- a) Construction of industrial areas.
- b) Projects for urban development, including construction of shopping centres and parking lots.
- c) Building of railways, transshipment stations and terminals or terminals for combined traffic.
- d) Construction of airfields.
- e) Building of roads, ports or port facilities, including fishery



ports.

f) Construction of inner water courses and facilities for the regulation of water flows.

g) Dams and other barrages or water storage facility for long lasting usage.

h) Trams, elevated or underground railways, suspension railways or similar lanes of special type only or mainly used for passenger transport.

i) Building of pipelines for gas or oil.

j) Construction of water pipes over long distances.

k) Shore facilities for combat erosion and sea facilities whereby the coastline can be changed, for example levees, piers, water breaker and other facilities as protection to the sea, except for maintenance and reconstruction of such facilities.

l) System for ground water extraction or artificial ground-water formation.

m) Facilities for bridge passage of water between drainage areas.

## The Regulation of (2004:660) the Management of Water Environment Quality.

(Förordning (2004:660) om förvaltning av kvaliteten på vattenmiljön)

### Chapter 1. Introductory Provisions

**Section 1.** This regulation is applicable to the administration of the water environment quality pursuant to Chapter 5 the Environmental Code.

#### Definitions

**Section 2.** Environmental quality standards, activity programme, water district and drainage area have the same meaning in this regulation as pursuant to chapter 5 the Environmental Code.

Bathing water in this regulation has the same meaning as pursuant to the Regulation on Bathing Water (2008:219). *Regulation (2008:219).*

**Section 4.** When applying this regulation on the surface water quality, the meaning of surface water: the status of a surface water occurrence determined by the ecological or chemical status of the water occurrence, determined by the poorest of these, ecological status: the quality on the structure and function of aquatic ecosystems that are bound to surface water, classified according to Annex V in the

Directive of 2000/60/EC and classified as “high”, “good”, “moderate”, “poor” or “bad”,  
chemical surface water status: the chemical quality of a surface water, classified according to Annex V in the Directive of 2000/60/EC and Article 3, 4, and 6 and Annex I in the Directive of 2008/10/EC as “good” or “failing to achieve good”, ecological potential: the condition of a heavily modified or artificial water surface, classified according to Annex V in the Directive of 2000/60/EC as “maximum”, “good”, “moderate”, “poor” or “bad”.  
*Regulation (2009:1108).*

**Section 5.** When applying this regulation to the groundwater quality, the meaning of groundwater status: the condition of a groundwater body determined by the quantitative or chemical status of the water, determined by the poorest of these, quantitative status: a condition related to direct and indirect impact of water outflow on a groundwater body, classified according to Annex V in the Directive of 2000/60/EC as “good” or “failing to achieve good”, and chemical groundwater status: the chemical complex of a groundwater body, classified according to Annex V in the Directive of 2000/60/EC and the Annexes I-IV in the Directive of 2006/118/EC and classified as “good” or “failing to achieve good”. *Regulation (2008:983).*

## **Chapter 2. Water Districts and Water Authorities**

### **Water Authorities**

**Section 2.** For every Water District a County Administrative Board shall, pursuant to Chapter 5 Section 11 the Environmental Code be Water Authority with responsibility for the administration of the water environment quality in the district pursuant to this regulation.

### **Collaboration**

**Section 4.** The Water Authorities shall plan their work pursuant to this regulation so that it enables and encourages participation of all concerned by the administration of the water environment quality. Before the Water Authority make decisions on quality requirements, administration plans and activity programmes or otherwise handle matters pursuant to this regulation of larger significance shall the Authority consult with the authorities, municipalities, organisations, operators and private individuals concerned by the decision.

## **Chapter 4. Environmental Quality Standards**

### **Definition of quality requirements for Water Districts**

**Section 1.** Every Water Authority shall define the quality requirements for surface water occurrences, groundwater occurrences and protected areas in the Water District.

**Section 2.** The quality requirements for surface waters shall be defined so that the condition of surface water occurrences will not be deteriorated and so that all surface water occurrences, except for those declared artificial or heavily modified, reaches good surface water status at the latest by 22 December 2015 pursuant to the provisions of Annex V in the Directive of 2000/60/EC and Article 3, 4, and 6 and Annex I in the Directive of 2008/105/EC. *Regulation (2009:1108).*

**Section 5.** The quality requirements for groundwater shall be defined so that the condition in groundwater occurrences reaches good groundwater status at the latest by 22 December 2015 pursuant to the provisions of Annex V in the Directive of 2000/60/EC and the Annexes I-IV in the Directive of 2006/118/EC. *Regulation (2008:983).*

**Section 6.** The quality requirements for protected areas shall be defined so that all standards and goals are reached at the latest by 22 December 2015, if else do not follow pursuant the legislation where the protected areas have been defined.

### **Deviations and Exceptions**

**Section 9.** The Water Authority may decide the quality requirements shall be fulfilled at a later point of time pursuant to sections 2-6, if

1. The purpose is to gradually improve the water environment so that the quality requirements are fulfilled by the later point of time,
2. It is not possible due to technical reasons or with reasonable costs to accomplish the improvements of the water environment needed to fulfilled within the time set in sections 2-6, and
3. The water quality does not risk to be further deteriorated.

A decision pursuant to the first paragraph may entail the quality standards to be fulfilled later than 22 December 2027. Then, only if it is impossible, on natural grounds, to accomplish the improvements before 22 December 2027. *Regulation (2008:983).*

## **Appendix III – The EU Water Framework Directive**

### **Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (WFD)**

#### **Article 4 (a) (ii).**

“with the aim of achieving good surface water status at the latest 15 years after the date of entry into force of this Directive, in accordance with the provisions laid down in Annex V, subject to the application of extensions determined in accordance with paragraph 4 and to the application of paragraphs 5, 6 and 7 without prejudice to paragraph 8;”

## **Appendix IV – The Interview Questions**

### **Questions posed to the Swedish Transport Administration (Trafikverket)**

1. How do you at the Swedish Transport Administration relate to the exception rule according to the Environmental Code (the Code) chapter 11 section 12? How does your assessment of this work?
2. What does a consultation procedure ”normally” look like according to your experience; how is the conformation (design) of an Environmental Impact Statement done and how does the consultation with the County Administrative Board work (the content of the application)?
3. Are you at an early stage trying to get the concerned municipality involved in the consultation procedure?
4. How common is it, for example at water operations in road projects that the Administration reaches the conclusion of the necessity of the Code’s chapter 6 section 4 point 2 ”consultation with an extended group” due to the fact that the planned operation has a “Significant Environmental Impact”? What guidelines do you have for such an assessment?
5. How much emphasis ought to be put on and how detailed should the Environmental Quality Standards be in the permit application?
6. Do you perceive the attitude towards trial of or notification of water operation for road projects to be different compared to water operations without connection to road projects?
7. With regard to conditions given by the (Land- and) Environmental Court in permits for water operations at road projects; what does the development look like during the latest years?

### **Questions posed to the Swedish County Administrative Boards (Länsstyrelserna) and the Municipalities<sup>44</sup>**

1. How do you at the County Administrative Board (the Board) relate to the exception rule according to the Environmental Code (the Code) chapter 11 section 12? How does your assessment of this work? How far do you go in trying to influence the

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<sup>44</sup>The same questions were posed to the Municipalities but with changed title/name

operator (how far do the Board go in counselling the operator about the exception rule, and how restrictive does the appliance of the rule be)?

2. What does a consultation procedure "normally" look like according to your experience; how much can you direct or lead the conformation (design) of an Environmental Impact Statement and influence the content of the application?
3. How much do you try to influence the Swedish Transport Administration to involve the concerned municipality in the consultation procedure at an early stage?
4. How common is it, for example at water operations in road projects that the Board reaches the conclusion of the necessity of the Code's chapter 6 section 4 point 2 "consultation with an extended group" due to the fact that the planned operation has a "Significant Environmental Impact"? What guidelines do you have for such an assessment? The Annex to Regulation (1998:905) on Environmental Impact Statements?
5. How much emphasis ought to be put on and how detailed should the Environmental Quality Standards be in the permit application?
6. Do you perceive the attitude towards trial of or notification of water operation for road projects to be different compared to water operations without connection to road projects?
7. With regard to conditions given by the (Land- and) Environmental Court in permits for water operations at road projects; what does the development look like during the latest years?

### **Questions posed to the Water Authorities and the Legal, Financial and Administrative Services Agency<sup>45</sup>**

1. How much emphasis ought to be put on and how detailed should the Environmental Quality Standards be in the permit application?
2. What does the development look like with consideration to 2015(generally, in the big perspective)? There is a lot to <preferably> be reached by 2015; where would you like to see the focused placed (prioritised areas)?
3. The establishment of control programmes as a condition in permits; in what way do the programmes facilitate the Water Framework directive to be followed and for it targets to be reached?
4. How are the Land- and Environmental Courts likely to develop their assessments/handling of the Environmental Quality Standards?

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<sup>45</sup> The Swedish titels: Vattenmyndigheterna och Kammarkollegiet

**Questions posed to the Swedish Society for Nature Conservation, the Swedish Environmental Protection Agency, the Swedish National Board of Housing, Building and Planning, and the Geological Survey of Sweden (GSS)<sup>46</sup>**

1. How do you at the XXX relate to the exception rule according to the Environmental Code (the Code) chapter 11 section 12? What advice or comments do you give at consultation meetings to the operator?
2. What does a consultation procedure "normally" look like according to your experience; how much can you influence the content of the application? Does the operator draw on your advice, opinions and standpoint?
3. How can your role as a consultation party develop?
4. How much emphasis ought to be put on and how detailed should the Environmental Quality Standards be in the permit application?
5. Do you perceive the attitude towards trial of or notification of water operation for road projects to be different compared to water operations without connection to road projects?
6. With regard to conditions given by the (Land- and) Environmental Court in permits for water operations at road projects; what does the development look like during the latest years?

The GSS with the additional question following below:

1. What does your role look like at a court trial?

**Questions posed to the Main Contractor (Huvudentreprenör)**

1. When you at XXX have been appointed (main) operator for a road project, what does the starting-up phase look like; how much and in what way do you become familiarised with/informed of the verdict from the (former) Environmental Court with regard to the water operation(s), with its Environmental Impact Statement and permit and permit conditions?

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<sup>46</sup> The Swedish titels: Naturskyddsföreningen, Naturvårdsverket, Boverket and Sveriges Geologiska Undersökning (SGU)

2. How are the follow-ups of question 1 conducted during the progress of the work as well as at inspection and the completion of the work?
3. How does the information flow downwards function, i.e. to the Contractor's employees or sub-contractor that work on site with the constructions (preparing work in the land, blasting, bulldozing, asphalt spreading, ditch drainage, road culverts, soil drainage, dredging, tunnels etc)? How well informed are they of the permit conditions?
4. How does the contact "normally" work with the operator, i.e. mostly the Swedish Transport Administration during the construction process?
5. How are you affected by the control programmes that are established by the operator and the Board?
6. Does the working process look different now than it did ten years ago? Has the information become better and more easily accessible? Is the process simpler or more complex (requirements, regulations, conditions, time wise)?